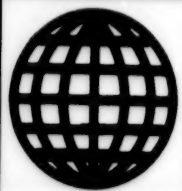


JPRS-TEN-94-015

9 June 1994



**FOREIGN
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JPRS Report

Environmental Issues

Environmental Issues

JPRS-TEN-94-015

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9 June 1994

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REGIONAL AFFAIRS

Roundup of Environmental Reports

AB2505120094

[Editorial Report] The following is a roundup of recent environmental reports monitored from media in FBIS Abidjan Bureau and EAU coverage areas from 6 to 17 May.

Ghana

The Volta River Authority [VRA] "banned activities like farming, tree felling, bush burning, and charcoal production along shores bordering the shoreline of the Volta Lake in six districts." The districts are (Asuaman) Kpandu, (Jasikan), Manya Krobo, (Fanti Akwa), and Kwahu South. A statement issued in Accra yesterday by the VRA explained that these activities, which have recently become rampant, are causing serious land degradation along the lake. The statement said apart from "degrading the environment, these activities have resulted in soil erosion, earth movement, landslides, and silting at the in-take area of the Akosombo power plant. It noted that this reduces the output of the power plant and also creates maintenance problems for the VRA."

The statement further explained that bush burning in the area near the Akosombo dam and the port exposes the area to fire hazards due to the storage and loading of petroleum products at the port. The VRA appealed to "district assemblies and chiefs in the affected areas to assist in the enforcement of the ban to prevent further degradation of the environment around the lake." [Accra Ghana Broadcasting Corporation Radio Network in English 0600 GMT 6 May 94]

Mali

President Alpha Oumar Konare received Mr. Billo Soumana, Niger's minister of water supply and the environment, on 17 May. The latter was accompanied by the executive secretary of the Niger River Basin Authority. After the audience, Billo Soumana spoke to Alhassan Al-Mohamed: "The Niger River Basin Authority was established in 1964 with the objective of rational, equitable, and sustainable management of the basin's water, fisheries, and forest resources. Today, we are faced with a problem, because the Niger River itself is dying. So the Niger River Basin Authority must resume its activities in order to salvage the river. We discussed the possibility of saving the river, which is everything to us."

Responding to a question, the minister stated that the river was being threatened by the low level of rainfall, and though there could be no direct action concerning rainfall, the environment could be restored. He disclosed that certain sections of the river were silted, and that desilting

projects must be carried out and the basin protected. He added: "There is another threat which is little known to Africans, and that is the water hyacinth. This plant is unknown to Africans because it originates from Latin America, and has just appeared in Africa, threatening all our water resources." He concluded: "Efforts by individual countries on their own stretches of the river cannot save the river, and are doomed to fail if all the other countries concerned do not take the same measures." [Bamako Radiodiffusion du Mali in French 2000 GMT 17 May 94]

Nigeria

The Delta State Government says "it needs about 4 billion naira to effectively combat ecological and environmental problems." The commissioner for works, housing and transport announced this in Asaba when the staff and students of the Administrative Staff College of Nigeria paid him a courtesy call. He further said that "about 15 million naira would be needed monthly to provide temporary relief from coastal erosion and flooding." He used the occasion to urgently appeal to the National Committee on Ecological Disasters to come to the aid of the state, by providing the necessary financial and technical assistance. [Lagos Radio Nigeria Network in English 1500 GMT 15 May 94]

KENYA

Government Says Lake Victoria Safe From Disease

EA2605093094 Nairobi KNA in English
1420 GMT 25 May 94

[Excerpts] Kisumu, 25 May (KNA)—The government has assured the consumers of resources based on the Kenyan side of the Lake Victoria that they have nothing to fear and should continue with their activities as usual.

Reacting to various press reports to the effect that thousands of decomposing corpses being swept into Lake Victoria through River Kagera was a big environmental risk, Nyanza P.C. [provincial commissioner] Mr. J.K. Kaguthi stressed that available scientific fact confirms that the Lake Victoria waters of the Kenya side were safe, including the popular species of fish such as Tilapia and Nile Perch. [passage omitted]

The team [as received] noted the chances of our fish or our waters being contaminated or polluted as a result of the decomposing bodies from the Kagera River mouth are remote and people should continue eating their fish. The government noted that all relevant agencies, including the provincial security committee, marine and medical experts will continue to monitor the situation when the need arises.

Shanghai Achieves 'Basic' Environmental Protection

OW2405035594 Beijing XINHUA in English
0318 GMT 24 May 94

[Text] Shanghai, May 24 (XINHUA)—This, China's largest metropolis and economic center has a basic system in place to prevent deterioration of the environment.

"The amount of major discharged pollutants has dropped and the quality of the local environment has improved vastly," Lu Shuping, a specialist in environmental protection, said.

"But noise pollution is getting worse," noted Lu, also director of the Shanghai Municipal Bureau of Environmental Protection.

Shanghai, with a population of more than 13 million, is China's largest industrial city.

To ensure that its people live in a clean environment, the municipal government has adjusted its industrial structure and industrial locations in a scientific and rational way in recent years. At the same time it has concentrated on the treatment of water and air pollution, along with the construction of infrastructural facilities and basic industries.

As a result, the director noted, the quality of water and air has improved to some degree, but noise still exceeds the set standard due to the construction of urban facilities and the increase in the number of motor vehicles.

According to the latest statistics, the amount of discharged industrial waste water in 1993 was 6.52 percent less than in 1992, and that of water after treatment increased by 5.47 percent.

The rate of industrial waste water treated last year reached 82.3 percent, up 5.3 percent over the previous year.

According to the statistics, the amount of discharged domestic sewage last year went up by 105 million tons and that of sewage treated by 96.9 million tons.

All this shows that Shanghai discharges an average of 5.567 million tons of waste water a day, of which 63.1 percent is industrial-use water and the rest domestic sewage.

According to the expert, the amount of sulphur dioxide, smoke and industrial dust, which are regarded as major pollutants in waste gases, shrank by 14.1 percent, 15.9 percent and 3.4 percent, respectively, last year over 1992.

The rate of utilization of solid industrial pollutants is 83.7 percent and that of the treatment of garbage 71.6 percent.

According to the director, the main pollutants in local water are ammonia, nitrogen, chemicals and oil.

A recent survey on the upper reaches of the Huangpu River showed that the water quality was better than in 1992 and the amount of dust in the air over the city was less than in 1992.

Lu said that the municipal government is working out an overall program to clean and beautify the environment so as to control pollution and improve the quality of the surroundings.

The program includes construction of sewage treatment, waste water discharge and garbage disposal projects.

In addition, the municipal government will strengthen noise control, including banning the use of motor vehicle loudspeakers.

It will also develop cooking gas facilities and plant more trees, flowers and lawns in and around the city, Lu said.

Environmental Label Attestation Committee Founded

OW2405081994 Beijing XINHUA Domestic Service
in Chinese 0910 GMT 17 May 94

[Report by Zhu Youdi (2612 1635 2769)]

[Text] Beijing, 17 May (XINHUA)—The China Committee for Authenticating Environmentally Labeled Products was founded in Beijing today, signalling a period of substantial development in our country's "green industry." The committee's establishment will facilitate the improvement of the quality and reputation of environmentally labeled products, the development of domestic and foreign markets for such products, and the promotion of coordinated environmental and economic development.

Environmental labels, also known as ecological or green labels, are a kind of corroborative trademark which indicates that the products in question meet specific demands for environmental protection during the entire process, from the development and exploitation of raw and semi-finished materials to production, utilization, and recovery or scrapping; that they pose no harm to the ecology or cause little pollution; and that they facilitate the regeneration and recovery of relevant resources. At present, more than 20 countries or regions in the world have adopted these labels or are drawing up plans for adopting them.

A leading environmental problem currently facing China is the serious wastage of resources and outmoded production technology. In light of its own national conditions and drawing on the experiences of foreign countries, China will first provide environmental label authentication services for environmentally harmful products which can be rendered significantly less noxious. Chief among them are products with low levels of toxicity and harm, energy- and water-saving products, products with low emissions, and recoverable, low-noise, and biodegradable products. Our country has prescribed and unveiled its first set of technological requirements for six environmentally labeled products. They apply to household refrigerators with low levels of chlorofluorocarbon [CFC], CFC-free aerosols (hair sprays and mousse), water-based paints, unleaded gasoline, recycled toilet paper, and silk products.

The China Committee for Authenticating Environmentally Labeled Products, which was established by the State Environmental Protection Bureau with the authorization of the State Technology Supervision Bureau, is the only third-party authentication agency which verifies various environmentally labeled products on behalf of the state. The committee, which is composed of specialists from environmental protection departments, economic management departments, scientific research institutes and

academies, quality inspection departments, and relevant mass organizations, is headed by Xie Zhenhua, director of the State Environmental Protection Bureau.

The design of the Chinese environmental label consists of green hills, blue water, the sun, and 10 rings, signifying that "all people have joined forces to protect the environment on which mankind depends for survival."

Liaoning Sets Up 37 Nature Reserves

OW2405095194 Beijing XINHUA in English
0910 GMT 24 May 94

[Text] Shenyang, May 24 (XINHUA)—Northeast China's Liaoning Province has set up 37 nature reserves to protect rare animals, plants and landscape.

An official with the Liaoning Provincial Environmental Protection Bureau said that the reserves are home to 97 rare animals and several rare plants on the state's protection list including the red-crowned crane, bear, sable, Mongolian gazelle, sika, red deer and otter, as well as ginseng in the plant category.

He said that in the reserves, specialized protection teams have been set up. Every year, the province allocates special funds to equip the team with fire prevention equipment and for scientific researches.

Scientific personnel are also undertaking a series of investigations and research programs to survey the wildlife resources in the reserves.

The Laotieshan Nature Reserve on snake island in the province was set up in 1979 and is now a major stop for migrating birds, including red-crowned cranes, swans and eagles, in northeast China.

Since the reserve was set up, hundreds of thousands of birds have been saved from slaughter.

In the northeast section of snake island, the number of pallas pit viper, the only kind of poisonous snake on the island, has reached about 17,000, an increase of 5 percent per year since the reserve was established.

Hebei Auctions Right To Develop Mountain Areas

OW2305160894 Beijing XINHUA in English
1439 GMT 23 May 94

[Text] Shijiazhuang, May 23 (XINHUA)—Three counties in the Taihangshan Mountain Region of north China's Hebei Province have launched a campaign to auction the right of use of barren hills in a bid to effectively implement one of China's afforestation projects.

Also under auction are barren valleys, wastelands and uncultivated mountain slopes.

China's land law stipulates that all land, including mountains and rivers, is state property. Therefore, what has been auctioned is the right to explore the undeveloped areas. Underground minerals, however, are excluded.

Hebei provincial sources said that Zhanhuang County has sold the right of use for some 11,000 ha [hectares] of

uncultivated areas, more than 60 percent of the county's total such areas. Pingshan and Tangxian Counties have "auctioned" off another 11,600 ha of such areas.

The Taihangshan Mountain Range, winding through 110 counties, cities and districts in Hebei, Henan and Shanxi Provinces and Beijing, has a mountainous area of more than 12 million ha. The Taihangshan Mountain Afforestation Project, one of China's largest afforestation projects in full swing, has been written into the "21st Century Agenda of China".

According to the project, by the year 2000 the total green area in the Taihangshan Mountain Region is projected to top nine million ha and the forest cover rate there will climb from the current 18.1 percent to 43.6 percent.

The three counties have promulgated a set of policies stating that all capable individuals, enterprises, institutions and departments can participate in the bidding for the right to develop barren areas, either individually or jointly.

According to the policies, which set no limitations on the area of land a bidder can offer to buy, the auctioned barren areas can be inherited, leased or transferred before the auction contracts expire.

They also stipulate that the bidding winners must strive to achieve the initial afforestation target set down by related departments for the first three to five years. Otherwise, the auction deal will be invalidated and the areas covered by the contracts re-auctioned.

An official at the Forestry Department of Hebei Province said that the auction of the right of use of barren areas is an experimental reform measure that has a direct bearing on agricultural property rights relations in the countryside as well as on the interests of farmers.

He added that the reform is also a bold experiment to integrate the land with the market.

The official said that the long-term limit applied to auction deals, generally ranging from 30 to 70 years, has helped form a direct and stable relationship between investment and economic returns.

This has triggered farmers' enthusiasm to channel more money and labor into improving the uncultivated areas, he said, adding that in the places where the reform measure has been introduced, economic and social benefits have become obvious.

Qin Wenping, Forestry Bureau director of Zhanhuang County, said that since the county first started auctioning the right of use of undeveloped areas in 1990, the county's forest cover rate has risen from 13.7 percent to 20.4 percent.

He also said that the county's annual output of fruit has doubled to 20 million kg and per capita income increased by some 1000 yuan (more than 120 U.S. dollars).

Official sources said that the auction practice has also been started in Henan, Shanxi and Liaoning Provinces.

ADB Assists Beijing in Environmental Protection

OW2005095594 Beijing XINHUA in English
0909 GMT 20 May 94

[Text] Manila, May 20 (XINHUA)—The Asian Development Bank (ADB) today approved a technical assistance grant of 600,000 U.S. dollars to China for the Chang Jiang (Yangtze river) water and soil conservation and environment project.

The technical assistance will assist China in strengthening its capability to manage and develop the upper and middle reaches of the Chang Jiang basin in a economically viable and environmentally sustainable way, the Manila-based bank said.

With the assistance, seminars and workshops will be held for arousing greater awareness of environmental conservation among officials from the nine provinces included within the upper and middle reaches of the basin.

The technical assistance also will help reinforce linkages among government ministries to strengthen the concept of integrated basin management in order to achieve more effective flood control and to optimize efforts in economic development and environmental protection, said the ADB.

Delegation Head Addresses UN Conference on Islet Nations

OW2105013794 Beijing XINHUA Domestic Service
in Chinese 0304 GMT 6 May 94

[By reporter Liu Ruichang (0491 3843 1603)]

[Text] Bridgetown, 5 May (XINHUA)—At the "Global Conference on Sustainable Development for Developing Islet Nations"—a UN high-level meeting held in Bridgetown, the capital of Barbados—on 5 May, Liu Chengguo, head of the Chinese Government delegation, pointed out that the principle defined at this meeting for the establishment of partnership for sustainable development should become the basis of international cooperation in the fields of environment and development.

Liu Chengguo believes that the sustainable development of developing islet nations is an important element of global sustainable development. Developing islet nations' efforts to develop their economy and protect the environment are contributing to attaining the goal of worldwide sustainable development.

Speaking of ways to establish this kind of partnership for sustainable development, Liu Chengguo said that it should be built on mutual respect and equal treatment. He said: All countries—big or small, strong or weak—should be equal partners in international cooperation; the basis for cooperation comes only in this way. Partnership will be out of the question if either side should indiscreetly criticize the other at every turn, always try to force on the other a certain model or policies and measures suited to

some other countries, or even take monetary or technical aid as political chips for putting forward unreasonable demands regarding the recipient country's internal affairs.

Liu Chengguo said: This kind of partnership should also closely link the resolution of global environmental problems with that of practical problems facing developing islet nations, and help developing islet nations attain the two complementary goals of sustained economic growth and environmental protection.

Liu Chengguo pointed out: This kind of partnership should embody the principle of "common but differentiated responsibilities." He said: Climatic changes, rising sea levels, pollution of ocean and seacoast, and other environmental problems are not caused chiefly by islet nations, but they have become the first victims of them. Many problems left over from the colonial or trusteeship periods continue to restrict their social and economic development. To effectively resolve the environmental problems facing developing islet nations and help them attain sustainable development, therefore, the international community, particularly the developed nations, should make more commitments.

In conclusion, Liu Chengguo said: Being a developing nation, China understands very well the difficulties facing developing islet nations and sympathizes with them. China has established friendly relations and cooperation with many developing islet nations and is ready to further and actively explore and strengthen multilevel South-South cooperation in various forms in the hope of bringing about common development and prosperity.

The United Nations began the "Global Conference on Sustainable Development for Developing Islet Nations" on 25 April. Government delegates from China and about 100 other member states of the United Nations attended the meeting. Held after the UN conference on environment and development in 1992, this meeting has the special purpose of resolving developing islet nations' peculiar environmental and development problems.

Official Says Soil Erosion in Yangtze Valley Under Control

OW2305022094 Beijing XINHUA in English
0136 GMT 23 May 94

[Text] Guiyang, May 23 (XINHUA)—China has succeeded in its water and soil control project on the upper reaches of the Chang Jiang river, the country's longest river, bringing 26,300 square km of eroded land under control and raising forest coverage by 33 percent.

In an interview with XINHUA, Chen Junfu, an official in charge of water and soil conservation in the Chang Jiang River Water Conservancy Committee, said that the water and soil erosion control project started in 1989 on 795 rivers and streams in Yunnan, Guizhou, Sichuan, Shaanxi, Gansu and Hubei provinces.

To carry out the government-funded construction, local farmers have been improving farmland and building various water conservation projects and water diversion canals. They have also planted economic and water and soil conservation trees in the project areas.

A recent survey of 169 of the rivers involved showed that the harnessing percentage has now reached 87, and 72 percent of the soil there has been retained. The per capita arable land in the area has gone up from 0.035 hectares to 0.07 hectares. Each farmer has added 0.02 hectares of fruit trees.

The official said China will increase investment in the water and soil erosion control project so as to bring 93,000 square kilometers of soil erosion land under control before the end of the century, with special focus on the three gorges dam, a multimillion dollars hydroelectric project being built on the Chang Jiang river.

Shanxi Suffers 'Very Serious' Environmental Pollution

HK2605115294 Hong Kong ZHONGGUO TONGXUN SHE in Chinese 0328 GMT 9 May 94

[Text] Taiyuan, 9 May (ZHONGGUO TONGXUN SHE)—According to the environmental protection work meeting of Shanxi Province which was held a few days ago, environmental pollution in the province has been very serious. With the exception of the six cities directly under the provincial government, which have managed to initially check the spreading contamination of the atmosphere and surface water, the ecology of medium-sized and small cities in the province is being increasingly disturbed, and environmental pollution in some villages and towns is worsening.

Shanxi is China's energy and heavy and chemical industrial base. The province produces approximately 290 million tonnes of coal a year, and its consumption of coal increases at a rate of about 10 percent a year. At the same time, it releases one million tonnes of soot and 900,000 tonnes of carbon dioxide a year. These objective factors cast a shadow over Shanxi's already seriously polluted environment.

The results of the monitoring of the quality of the atmospheric environment of 17 cities in the province show: The daily average value [zhi 0237] density of suspended particles over the year is 216 to 833 micrograms per cubic meter, surpassing the state's grade-2 standard of atmospheric environmental quality. The figure for some major cities of the province is 130 percent higher than that for the cities in north China.

The results of the monitoring of the 11 major rivers and their tributaries in the province show: Although the major rivers have not yet been contaminated, the river sections whose waters are good for drinking and industrial and agricultural purposes are very few, and 85 percent of the

river sections are contaminated to varying degrees. The sources of drinking water and its quality in many cities have thus been adversely affected.

This grim situation has attracted great attention from the province's environmental departments. They expressed readiness to take an active part in comprehensive decision-making, to strengthen the building of the legal system, and to strive to urge the provincial people's congress to promulgate before 1997 the "Regulations of Shanxi Province on Environmental Protection," the "Regulations of Shanxi Province on Prevention and Control of Atmospheric Pollution," and relevant administrative rules and standards.

Rare Earth Used To Regulate Forestry Growth

OW2705110094 Beijing XINHUA in English
1045 GMT 27 May 94

[Text] Beijing, May 27 (XINHUA)—China has succeeded in applying rare earth to over 800,000 ha of forests, a world record, according to an official from the Ministry of Forestry.

Rare earth elements are a new type of growth regulators. By using scientifically-made fertilizers mixed with rare earth elements to dress seeds, dip roots or spray leaves, the growth of trees is promoted.

China started to use rare earth in agriculture and forestry in the 1980s, the earliest in the world. In 1992 the technology was popularized and applied to over 30 strains of trees, including walnut, date, pear, Chinese chestnut and Chinese hawthorn as well as grape vines.

Research results show that the output of a fruit tree cultivated with fertilizers containing rare earth elements increased by 10 percent to 40 percent. Besides, the fruit contains more sugar, Vitamin C and other nutritious elements. The 50 pilot counties in Beijing municipality and the Provinces of Hebei, Shanxi, Liaoning, Shandong and Henan invested about one million yuan (about 115,000 U.S. dollars) in the application of rare earth to fruit production, and they managed to increase their output of fruit by a total of 50 million kg, worth 100 million yuan.

Scientists also found that by applying rare earth, pine seeds will germinate earlier and pine trees will grow more quickly. Besides, by spraying rare earth elements on them, deciduous trees in north China remain green longer in the autumn.

In recent years the ministry of forestry, and provincial and city departments of forestry have taken various measures to popularize the technology of applying rare earth elements, including holding training classes, lectures, exhibitions and on-the-spot teaching.

CAMBODIA

Crackdown on Illegal Logging in Koh Kong Reported

BK2705094394 Phnom Penh REAKSMEI
KAMPUCHEA in Cambodian 27 May 94 pp 1, 5

[Text] A crackdown on illegal logging activities in Koh Kong Province—conducted jointly by a deputy state secretary for economy and finance and a deputy state secretary for agriculture—has proven successful. The five-day raid was launched on a hideout in the province where lawless activities took place to destroy trees and export logs. Four foreign barges loaded with some 5,000 cubic meters of wood were seized pending a decision by the government in accordance with the law.

Chea Peng-chheang, deputy state secretary for economy and finance, told REAKSMEI KAMPUCHEA upon his return to Phnom Penh on the afternoon of 25 May that the operation had been successful. There were no clashes or casualties even though the stronghold the operational team raided—where destructively felled trees were stored for unlawful export—had previously been inaccessible. The deputy state secretary added: We seized a crane, four barges, and 500 cubic meters of logs suspected of being illegal.

A Singapore company called Maxtron, the owner of one of the four seized barges, is angry about the crackdown, arguing that it forgot to bring its authorization along on the barge, and that it had permission and paid taxes for the export of 1,000 cubic meters of wood, including the seized logs. Who would have dared to issue such authorization?

Commenting on this issue, Chea Peng-chheang said: We have not yet made any decision on the seizure. It is up to the government to solve this problem.

May Sam-oeun, the deputy state secretary for agriculture who also participated in leading the operation, said: The seizure of those barges was correct. The Agriculture Ministry is perfectly entitled to make arrests and seize the means of transportation and logs if the owners do not have authorization. The ban on log exports became effective 1 April 1994.

It should be pointed out that the crackdown on illegal logging was launched following a report that the illegal export of logs from Koh Kong Province was continuing, and after a terrifying clash between a combined team that sealed the Sre Ambel pass and a gang protecting the log export merchants.

May Sam-oeun added: We achieved complete success this time, unlike the unsuccessful operations we carried out with forestry officials in recent months. Some of those officials, he added, continue to issue log export authorizations to a number of foreign companies in violation of the government's ban on log exports. He did not elaborate on the cause of the first operation's failure.

Commenting on the capture of two members of the combined team by the gang protecting the log exporters following a clash on 18 May, Chea Peng-chheang said: These

two officials have already been released unharmed by the gang without any preconditions. The primary goal of the 130-member operational team was to crack down on the armed gang that fired at a combined team in Sre Ambel. They all fled before the reinforcement group arrived, however. It is not yet known who the ringleader of the gang is, but there is already a hint about his identity.

INDONESIA

Daily Discusses Environmental Issue in World Trade

BK2305105494 Jakarta SUARA PEMBARUAN
in Indonesian 6 May 94 p 2

[Editorial: "Restricting Industries That Cause Pollution"]

[Text] Sarwono Kusumaatmaja, minister of state for the environment, has warned that the government will put a limit on businessmen wishing to invest in industries that will pollute the environment. Industrial plants will also be relocated to restricted areas.

Minister Sarwono was speaking at a coordinated meeting on environment and water pollution, which was chaired by Hartarto, coordinating minister for industrial and trade affairs, on Pulau [Island] Air, near Jakarta recently. He said that the government will phase out the operational permits of pulp and paper companies that use chlorine, mercury, and sulphur in their productions. The government will also prohibit new investment in projects that are not environment-friendly.

It is understandable that participants focussed their attention on ways to overcome the environmental impacts of toxic waste throughout the meeting. This is in line with the post-Uruguay Round talks on exports strategy, whereby products are highly competitive in the world market. Indonesian manufacturers are required to act together on environmental protection because the environment has become an important economic asset. They have to assure consumers in the developed countries that they are serious about dealing with environmental issues, otherwise their export products will be rejected by these countries.

Indonesian exporters should pay serious attention to the demands of the world market for more environmentally-friendly products to take advantage of the new GATT rules on market access signed in Marrakesh, Morocco, last April.

At the meeting, it was also mentioned that at least 51 percent of Indonesia's industrial products are targeted for countries that apply eco-labelling rules to their imports. Actually, Indonesian exporters can request the office of the minister of state for the environment to eco-label their products. Yet, to date not even one exporter has asked for his products to be inspected. We admit that all this while even without the eco-labelling rules being observed, some products were able to be exported; however, sooner or later their international competitiveness will decline.

Indonesia's products are exported mostly to EC member countries, which are calling for the application of the eco-labelling rules on products sold to them. The pressures not only come from the importing countries, but also from consumers who are environmentally aware.

We have to bear in mind that the manufacturers' commitment to environmental awareness is linked to the export of their products on the international market, otherwise their competitiveness could not be maintained. On the other hand, the closure of existing industries and the prohibition of new investment projects will decrease employment opportunities in the country. This situation will worsen social disparities because the manpower growth rate is higher than that of the growth rate of job opportunities.

Can the restriction and closure of industries that produce toxic wastes be the only alternative to comply with the world trade regulations or are there any other alternatives? Indonesia should study the facts on production technology from other pulp and paper manufacturing countries that have stopped using chlorine in their productions. The papers that are manufactured from pulps contain chloride, causing hazards to health when they are used for wrapping up food. Waste water from the pulp and paper industries reaches danger level when it contains over 1.5 kilograms of chloride per ton.

However, it is impossible to say that waste water from all industrial plants is free from chlorine because industries that produce toxic waste do exist. A plastics plant, for example, cannot replace the chlorine in its manufacturing process.

When these industrial plants are equipped with water treatment [preceding two words in English] facilities, it is possible to neutralize the environmental impact of dangerous toxic waste. Now the only problem left to be looked into is the system of waste disposal, or how the toxic waste is being handled, so that it will not endanger the surrounding area. To cite an example, the construction of a paper factory in North Sumatera turned into a political issue because the local residents and the owners of the factory could not reach a common settlement on the method of waste disposal. It will take some time before the government can impose a law on all industries prohibiting them from using any toxic material, and this has to be implemented in stages. The government cannot force industrial plants to stop using the dangerous chemicals in their production within a short time because this will create a distortion in the country's industrial policy.

Now that the government has shown its commitment to coupling trade with the environment, obviously it will require wise and rational measures to cope with the circumstances so that industrial development in the country will not be jeopardized. The Investment Coordinating Board (BKPM) is expected to be more selective when issuing operational permits to companies or industries by taking into consideration the possibility that they may pollute the environment, the use of dangerous raw material in their productions, the type of machinery to be used, and the type of goods to be produced. In this way, industries that are hazardous to the environment will be cut out.

JAPAN

Article Views MITI-STA Friction Over Plutonium Policy

OW2405212394 Tokyo YOMIURI SHIMBUN
in Japanese 22 May 94 Morning Edition p 4

[Unattributed "Scope" column: "Review of Plutonium Policy Shows STA-MITI Frictions"]

[Text] Japan will slow down its plutonium-related projects, a subpanel of the (prime minister's) advisory Atomic Energy Commission said in its report submitted on 18 May. The policy change was made in view of global concern over Japan's plutonium policy. On the other hand, the advisory report again stressed the need for continued studies on plutonium use, without indicating future directions of the project. The inadequateness of the report reflects frictions between the Science and Technology Agency [STA], which is seeking the promotion of nuclear fuel recycling, and the Ministry of International Trade and Industry [MITI], which takes a prudent stance toward plutonium use. The industrial circles are voicing concern over the unclear policy review because they always become the sole sufferers from inadequate policies.

Speculations

The advisory report by the Atomic Energy Commission is expected to become the outline of the government's new long-term program for atomic energy development, which will be revised for the first time in seven years. Therefore, STA and MITI finalized the report by carefully adjusting the interests of both sides.

For STA, nuclear fuel recycling is a big-scale and long-term project which guarantees much expenditures and manpower mobilization. STA cannot accept the scaledown of the project since the project is a "centerpiece" to demonstrate its presence in Kasumigaseki [bureaucratic circles]. On the other hand, MITI is looking for good excuses for checking STA's initiative. Based on studies by the (MITI minister's advisory) General Energy Council, a top MITI official recently stated: "The government should slow down its plutonium-related projects."

The experimental fast breeder reactor "Monju" cost the government over 600 billion yen, and in the next stage, electric power companies plan to build a demonstration reactor. The government intends to add nuclear fuel recycling costs to the price of plutonium, and the companies will have to buy the expensive fuel. MITI says it has to speak out for "silent complaints" from electric power companies. Since the ministry is in charge of Japan-U.S. relations, it has to give consideration to the U.S. policy on the DPRK's (North Korea's) nuclear weapons development.

Concern

Atomic energy-related products occupy about 10 percent of Mitsubishi Heavy Industries Limited's total annual sales. The company has over 1,000 engineers working in this field. In response to the governmental decision on the setback in plutonium use, the company expressed its

concern over the policy review, saying: "In line with the policy review, we will have to slow down our technological studies."

According to the Atomic Energy Industries Council, the total amount of nuclear-related projects in 1992 reached 2.24 trillion yen. These contracts were received by 470 companies, including electric appliance manufacturers, heavy machinery builders, and constructors.

Taking subcontractors into account, the "atomic power business" involves many companies. For the last five years, there have been no plans for constructing new nuclear-power plants due to difficulties in finding local government bodies willing to accept nuclear-related facilities. Under such circumstances, "We are not happy" about a possible delay in orders for nuclear recycling facilities (as noted by a major electric appliance company). Yet, "We cannot move engineers to other sections because it narrows future business chances" (as noted by Mitsubishi Heavy Industries).

In addition, the advisory report imposes on the business sector a duty to provide a nuclear fuel processing plant for consuming surplus plutonium. The plutonium business costs companies a lot, no matter which ones remain or withdraw from the business field, and it will certainly hit consumers in the future as a utility fee hike. Dilemma in the unclear nuclear policy will inevitably trouble the business sector and consumers.

Tokyo, Washington To Cooperate on Polio, AIDS, Environment

OW2505000694 Tokyo KYODO in English
2309 GMT 24 May 94

[Text] Washington, May 24 KYODO—Japan and the United States vowed Tuesday [24 May] to create a joint health program for children to stamp out polio from the face of the world by the year 2000.

"We believe (this goal) is technically feasible," said Undersecretary of State for Global Affairs Timothy Wirth in announcing the joint program.

The program is a new "common agenda" initiative the two countries created Tuesday as part of a year-old bilateral accord to promote cooperation on global social and environmental issues.

Wirth said the two countries also agreed to pool their aid resources and launch a second child health initiative to develop an inexpensive, "one-fits-all" children's vaccine to fight disease in developing countries.

In addition, the United States and Japan agreed to expand their "common agenda" plan on narcotics control, the protection of coral reefs, and the expansion of global changes research in Asia and Latin America, the two sides said in a statement released after a general meeting of the U.S.-Japan Common Agenda for Global Cooperation.

The "common agenda" program is the least controversial part of a highly contentious framework agreement the two countries concluded in July last year to define a "new economic partnership" between the two countries.

By stepping up bilateral cooperation on global social-economic issues while fighting on the trade front, the two countries have shown that "you can walk and chew gum at the same time," Wirth said.

The two countries have not yet worked out details of their new child health program, but Wirth said it involves bilateral cooperation in research and development, plus production and distribution of children's vaccines for use in developing countries.

"We believe that aggressive cooperation between the two countries...can lead to the eradication of polio worldwide by the year 2000," Wirth said.

Under the "common agenda" program, Japan and the United States have already agreed to pool their resources to control global population growth, battle the AIDS epidemic in developing countries and promote worldwide environmental projects.

A new environmental program approved Tuesday calls for providing financial aid to the Philippines to build a biodiversity training site at Subic Bay to protect lowland rain forests.

The two countries also pledged to finance a community resource conservation and development program in Papua New Guinea aimed at encouraging tribal clans to preserve endangered forests by promoting income alternatives.

On the AIDS front, the United States and Japan agreed to put six countries—the Philippines, Indonesia, India, Ghana, Kenya and Egypt—on their "priority" lists for a joint U.S.-Japan AIDS-fighting assistance program.

The two countries have so far pledged to provide up to 12 billion dollars by the year 2000 to fight AIDS and control exploding population growth in the developing world.

Ministry Panel To Propose Indirect Tax To Save Environment

OW2705112794 Tokyo KYODO in English
1033 GMT 27 May 94

[Text] Tokyo, May 27 KYODO—A Ministry of Finance panel will propose the introduction of an indirect tax aimed specifically at preserving the environment, ministry sources said Friday [27 May].

The proposal by a working group of the Institute of Fiscal and Monetary Policy, a think tank affiliated with the Finance Ministry, will be part of a package of recommendations on how to create a more environmentally friendly society through fiscal and monetary policy.

In a final report on the theme, to be issued in late June, the group will also urge the government and private firms to be more concerned with environmental conservation in their activities.

The proposed indirect environment tax would be added to the prices of manufactured goods, with the tax ratio set depending on the amounts of energy used to make the products.

The group will also recommend that private firms disclose data relating to their activities both benign and harmful to the environment, such as the amount of industrial waste generated and the amount of investment made for ecology preservation.

It will also ask the government as well as private banks to lend more to ecology-protecting projects and less to those focused only on economic interests.

Other ideas to be included in the report are the introduction of garbage-collecting fees and a review of the current farming methods that depend heavily on chemicals.

U.S. Forces Have 'Fiscal Problems' Over Noise Compensation

OW2705112894 Tokyo KYODO in English
1048 GMT 27 May 94

[Text] Tokyo, May 27 KYODO—The U.S. Forces in Japan have informed Tokyo that they have "fiscal problems" in paying their share of court-ordered compensation totaling hundreds of million yen to residents near a U.S. air base suffering from jet noise, government officials said Friday [27 May].

Under the bilateral status of forces agreement, the U.S. Forces are required to cover 75 percent of compensation payments, while the Japanese Government covers the remaining 25 percent.

The Defense Facilities Administration Agency and the Foreign Ministry will soon launch negotiations with the U.S. Forces on how to deal with Washington's fiscal constraints, the officials said.

In February last year, the Supreme Court dismissed demands by residents near Yokota Air Base in Tokyo for banning night and early morning flights there, but awarded them 112 million yen in compensation for noise pollution in the past, upholding two lower court decisions.

Tokyo, after having paid 160 million yen, including interest, to some 128 Yokota residents by last December, asked the U.S. Forces in March to refund their share of the sum, a demand which was rejected.

On March 30 this year the Tokyo High Court, in another Yokota lawsuit, again rejected a ban on night flights but ordered the government to pay 724 million yen in compensation, including interest, to 596 residents near the base, acknowledging that the jet noise inconvenienced them. Both residents and the government accepted the ruling in April.

Tokyo will soon urge the U.S. to shoulder its part of the burden for this case too, the officials said. They said the U.S. refusal to pay might be related to anticipated further compensation payments to noise victims near Atsugi Air Base in Kanagawa Prefecture.

The Supreme Court, having created a precedent with its Yokota ruling, in February last year ordered the Tokyo High Court, which had turned down compensation claims by Atsugi residents, to hold a retrial over the issue.

Delegation Issues Statement for Whaling Commission Meeting

OW2405032194 Tokyo KYODO in English
0128 GMT 24 May 94

[Text] Puerto Vallarta, Mexico, May 23 KYODO—The International Whaling Commission (IWC) opened its annual meeting Monday [23 May] to uncertainty over a French-led proposal for a giant whale sanctuary in the Antarctic to prevent commercial whaling.

Taking part in the five-day meeting are delegates from 33 of the IWC's 41 member countries along with observers from environmental groups.

The Japanese delegation issued a statement ahead of the meeting claiming the sanctuary lacks justification on scientific and biological grounds.

The sanctuary proposal is meant only to hamper sustainable use of marine resources, said chief Japanese delegate Kazuo Shima, deputy head of the Fisheries Agency.

There is no choice but to depend on marine resources for long-term food supply for the next generation when a worldwide food shortage is expected in the early 21st century due to steep population growth, he said in the statement.

The proposed sanctuary runs from the Antarctic to the 40th parallel.

Opponents led by Japan and Norway have advanced a counterproposal calling for the sanctuary to be set southward from the 60th parallel and excluding minke whales, which have survived in bigger numbers than other species.

Any proposal requires a three-quarters' majority to be passed but chances of a sanctuary being approved are almost even, delegates said.

Police To Prosecute Dealers for Illegal Wildlife Trade

OW2005090394 Tokyo KYODO in English
0807 GMT 20 May 94

[Text] Kushiro, Hokkaido, May 20 KYODO—Police sent papers to the prosecutors office Friday [20 May] on two men suspected of illegally dealing in the Asian arowana, an endangered species of tropical fish.

Police said that tropical fish shop proprietor Yoshitaka Udagawa, 31, purchased an arowana from another tropical fish shop owner in Tokyo in June 1992.

The carnivorous fish, for which some tropical fish enthusiasts in Japan will pay hundreds of thousands of yen each, is protected under the Convention on International Trade in Endangered Species of Wild Fauna and Flora, or the so-called Washington Convention.

Police said Udagawa failed to fulfill a legal requirement to register the arowana purchase with the Environment Agency within 30 days.

He subsequently compounded his troubles with the law by selling the unregistered arowana in July 1993 to a man in Kushiro, Hokkaido, without informing the agency of the transaction.

Masato Sasaki, 38, the Arowana's new owner, similarly failed to comply with legal requirements when he purchased the arowana from Udagawa and resold it to a tropical fish shop in Obihiro.

Representatives of Traffic Japan, which monitors the illegal wildlife trade, said two separate cases of illegal trade of arowana in Japan were exposed in November and a third case in February.

SOUTH KOREA

Environment Minister Leads Delegation to UN Conference

SK2405004994 Seoul THE KOREA TIMES in English
24 May 94 p 3

[Text] Environment Minister Pak Yun-hun will leave for New York today to attend the three-day conference of the U.N. Commission on Sustainable Development (CSD) which begins Wednesday.

Pak, chief of the Korean delegation to the international forum, will speak on Korea's role and commitment in the environmental context and promise financial support for underdeveloped countries while calling for a transfer of clean technology from advanced countries.

The conference will be attended by 53 CSD member countries, the U.N. Environment Program, General Agreement on Tariffs and Trade (GATT) and other non-governmental organizations.

The participants will discuss implementing of Agenda 21 adopted at the U.N. conference on environment and development in Rio de Janeiro in 1992.

The Korean delegation includes 11 officials from the Economic Planning Board, Foreign and Environment Ministries, and two non-governmental experts.

Study Shows High Level of Acidity in Rain

SK2005042694 Seoul THE KOREA TIMES in English
20 May 94 p 3

[Text] The month of May may be a time for spring delights but not when it rains. When it rains, a recent scientific research showed, acidity is sometimes as high as 100 times the permissible limit.

The two-year research, conducted jointly by the Environment Ministry and the Korea Meteorological Administration, in fact showed that 70 percent of the rain which fell between May 1992 and August last year was acid.

"That makes the situation even worse is that 70 percent of the acid rain is believed to have resulted from impurities transported from China," one environment official said.

He observed that the rain which fell across the nation at the end of last week showed an acidity of 4.9 pH, making it one of the most acid concentrated precipitation this year.

According to the research, there were four instances during the surveyed period in which of rain had acidity levels of under 3.6 pH much lower than the safe level of 5.6, and 32 occasions when the measurements were between 3.6 and 4.6 pH. One time did it record over 5.6. [sentence as received]

The environment official noted that the ministry spent over 10 trillion won over the past 14 years on reducing air and water pollution and the latest results show that they have largely been ineffective.

During the cited period, the concentration of sulfur dioxide fell from an average of 0.094 ppm (parts per million) to 0.023 whereas those for acid rain has only been getting from bad to worse.

"It appears that the main problem pertaining to acid rain is the transportation of impurities, including chemicals, from China, resulting from brisk industrialization there, which were carried here by westerly winds, the environment official said.

He noted that acid rain is especially acute in metropolitan and other heavily populated areas.

Government To Chose Nuclear Waste Storage Site in 1994

SK2505081594 Seoul KYONGHYANG SINMUN
in Korean 23 May 94 p 1

[Report by Kim Chung-il]

[Text] On the basis of its judgment that the construction of nuclear waste storage sites—whose selection has been delayed because of opposition by local residents—can no longer be postponed, the government has planned to decide on candidate sites during the latter half of this year before beginning construction next year.

One high-level government official said on 22 May: "In connection with the selection of sites, the government has thus far conducted public relations activities for local residents with a view to pushing ahead with construction, on a priority basis, with the consent of those residents who want to have such a site built in their area. But, as seen in the large-scale demonstrations in Yangsan County, South Kyongsang Province, we have come to judge that the beginning of construction based on residents' consent is realistically impossible. In this regard, the government will make public its selection of sites during the latter half of this year before beginning construction early next year."

The same official added that in order to minimize residents' backlash against the selection of sites, the government has been trying to provide support for regional development plans—including projects whose materialization the residents have long aspired for their own areas' benefit—and to legislate relevant enforcement ordinances for guaranteeing jobs for the residents' livelihood, saying that all these government efforts are now at a final stage.

He made clear the policy of pushing ahead with construction by saying: "Despite some residents' opposition, we will have no choice but to carry through the construction even by exercising government power."

He continued to say: "At the moment, nuclear waste coming from atomic power plants is being stored at the individual plants. But, it will reach a saturation point in 1999. It takes at least five to seven years to build a nuclear waste storage site. Therefore, it is a pressing question for us to begin construction early next year after making a final decision on construction sites within this year at the latest."

It has been learned that at present the government is searching for candidate sites among six areas, such as Anmyon Island, South Chungchong Province; Uljin and Yongil, North Kyongsang Province; Changhung, South Cholla Province; Kosong, Kangwon Province; and Yangsan, South Kyongsang Province—the sites a research team of Seoul National University has proposed—and among the areas where the existing atomic power plants are located.

Since the residents in the Yangsan area near the Kori Atomic Power Plant showed an interest in having such a site built in their area, the government has conducted public relations activities for them. But, in spite of the fact that more than 80 percent of the area's residents have consented to having such a site built in their area, there have been demonstrations staged by some residents and outside forces such as environmental organizations. As a result, the government officially expressed its stance of giving up the construction of a site in that area on 22 May.

LAOS

Nam Theun-Hinboun Project To Pose No Threat to Environment

BK2605080394 *Vientiane VIENTIANE TIMES*
in English 29 Apr-5 May 94 p 10

[Feature by Soumountha: "Nam Theun-Hinboun Hydro-Power Project Poses No Treat to Environment"]

[Text] "Nam Theun-Hinboun Hydro-Power Project poses no threat to environment." That was a welcome answer given to "VIENTIANE TIMES" reporters by the Project Manager.

In fact, this Hydro-Power project signed on April 20 augers well for the farming villages of the once-dry Nam Hai basin through possible small-scale irrigation systems taken into consideration under the Theun-Hinboun Hydro-Power Project.

Accessible by car, 300 km from Vientiane via Routes Nos. 13 and 8, the project site is located roughly 100 km upstream of the place where Nam Theun meets the Mekong. The location thus lends itself perfectly for the purpose of developing an existing natural resource to earn foreign currency for the country. The Power Station when

completed is expected to generate enough energy and income three times higher than that of Nam Ngum Power Station.

The combined technical know-how of the surveyors, designers, and construction engineers has resulted in this ingenious plan. The plan in brief is to construct an intake weir across Nam Theun at a point where a narrow mountain ridge separates the Nam Theun basin from the Nam Hinboun basin which lies at a lower level. The 240 metre difference in elevation will be fully exploited for power generation through a trans-basin diversion in that the water flow of Nam Theun will be diverted by 10 km of waterways into Nam Hai, a tributary of Nam Hinboun, eventually to the Mekong about 30 km upstream of Thakhek. In actual fact, water from Nam Theun will flow along a tunnel cut through the mountain, then down a 300 metre long inclined steel-lined pressure shaft, along a 650-m long steel-lined pressure tunnel to the power station on the other side of the mountain. The power station has an installed generating capacity of 210 MW (Megawatts). The water will then be discharged into Nam Hai through a 4-km long tailrace canal.

The 230 KV (Kilovolt) transmission line strung directly to the Thai border at Thakhek will be 100-km long. Beside the foreign currency earned, the Theun-Hinboun Power Project envisages power supply to meet future demands in Savannakhet and Thakhek, if the demand is high enough to justify the cost of a sub station.

Theun-Hinboun Power Project is the first attempt for private participation in the power sector in Laos.

This run-of-river hydropower development will be developed, owned and operated by the Theun-Hinboun Power Company Ltd., (THPC). Substantially all the power generated will be sold to the Electricity Generating Authority of Thailand (EGAT).

THPC is the combined efforts of Electricite du Laos (EDL, 55 percent), Nordic Hydropower AB (NH, 25 percent) and MDX Power Company Ltd. (MDX, 20 percent).

THPC is established with a capital of U.S. dollar 110 million. Asian Development Bank provides a U.S. dollar 60 million loan towards EDL's equity contribution. THPC's debt financing will be arranged from a mix of commercial sources and export credits with a 30-years concession period.

Actual construction on site will begin at the end of this year's rainy season, and the Project will be commissioned in the third quarter of 1997. Commercial operation is expected to commence September 1, 1997.

Nordic Hydro Power (NH) will manage implementation of project and be responsible for operation while MDX Public Co. Ltd., Thailand is to handle accounting and financial management services. Local staff will be trained and deployed to the maximum possible extent.

There will be no resettlement or loss of cultural heritage because of Theun-Hinhoun Power Project. On the contrary, it will eliminate water supply constraints in the Nam Hai area during the dry season and increase fish production and improve navigation upstream of the diversion

dam. The local community will benefit from improved health and education facilities, employment opportunities and rural electrification.

Theun-Hinboun Power Project will bring about the greening of the surrounding areas in many ways, in addition to earning hard currency for Laos.

Premier Issues New Timber Exploitation Policy

*BK2705142994 Vientiane KPL in English
0924 GMT 27 May 94*

[Text] Vientiane, May 26 (KPL)—Prime Minister Khamtai Siphandon on May 5 signed an order concerning forest exploitation that all state agencies at both central and provincial levels have to implement strictly.

The order indicated weak points in the implementation of the party and state policy on forestry resources as well as instances of violating this policy.

According to this order, permissions for cutting timber over quota and for cutting timber for all building purposes which have not been approved by the ministry concerned and the government are no longer issued, and those issued previously are ordered cancelled immediately and absolutely. No province can allow private businesses and owners of saw mills and wood processing factories to send their people to cut timber in the forest by themselves. State authorities in cooperation with locals will organise the cutting of timber and then sell it to private businesses at log yards No. 1 or No. 2. Provinces have to stop exporting log and sawn wood, and if necessary, they need special permission from the government. Provinces having border cross points with foreign countries should help the government in inspections. Timber export without permission from the governments absolutely not allowed to pass border points.

The government has allowed some companies only to do the export of sawn timber. Any companies with no authorization from the government are definitely not allowed to do so. The import of timber from other countries to Laos or in transit to a third country also requires a quota from the government. Installations of mobile saw mills and wood slicing machines are no longer allowed in the forest. Previous permissions on the matter, if any, will be officially cancelled. Exchanges of timber for cars, materials, equipment and other construction ventures are no longer permitted. Provinces have no right to allow local and foreign investors to set up wood processing industries and to undertake forestry concessions. This matter is to be decided by the government alone. The use by foreigners of labour, drawing equipment and trucks for cutting timber in the forest without permission from the government must be stopped.

The Ministry of Agriculture and Forestry and the Ministry of Industry and Handicraft are asked to send their personnel to the provinces to collect data on the numbers of villages and people still living on slash-and-burn farming on upland and watershed areas and their annual demand for rice. Then the personnel have to discuss with provincial

authorities a solution to the issue. In areas where conditions are favorable, people may have to move to fixed farming in the plainland, while those living in areas not favorable for rice farming will be advised to stop slash-and-burn farming and take up the planting of industrial trees or cattle raising on the spot. The state will provide them with rice, credit, money and animals. Slash- and-burn cultivation in lowland areas which cause forest destruction is also strictly banned.

TAIWAN

Taipei To Attend GATT Meeting on Trade, Environment

*OW2105084094 Taipei CNA in English
0739 GMT 21 May 94*

[Report by Y.C. Tsai]

[Text] Taipei, May 21 (CNA)—Taiwan will attend a worldwide meeting on trade, environmental protection, and global sustained development scheduled for June 10-11 in Geneva, an industrial official said Saturday [21 May].

Lin Chih-sheng, a division chief in charge of industrial regulations at the Industrial Development Bureau (IDB), noted that the two-day meeting will be hosted by the secretariat of the General Agreement on Tariffs and Trade (GATT).

The world trade regulating body, which will be superseded by the World Trade Organization (WTO) next year, has as its top priority the balanced development of world trade and environmental protection, Lin said.

Major topics on the agenda include the relationship among free trade, environmental protection, and global sustained development, environmental protection costs versus trade policies, and the future direction of international cooperation, he elaborated.

In order to learn of the most recent developments in this regard, he said, Taiwan must be represented at the meeting. The bureau, however, has yet to decide on which delegates will attend the meeting, he added.

A Taiwan delegation, led by Vice Economic Affairs Minister Sheu Ke-sheng, is in Geneva this week for the fifth meeting of the GATT working party screening Taiwan's membership application. Taiwan was accepted as a GATT observer in September 1992 and is expected to become a full member by the end of this year.

Citing a faxed letter from IDB Deputy Director-General Ho Mei-liang who is among the 33-member delegation in Geneva, Lin said that the June 10-11 GATT meeting will be vital to future trade and production trends.

Police Seize 10,000 Pieces of Ivory Products

OW2605021094 Taipei China Broadcasting Corporation News Network in Mandarin
2300 GMT 23 May 94

[From the "Hookup" program]

[Text] The Kaohsiung city criminal police force and the Agriculture Council's investigative group yesterday [23 May] solved the largest case of illegal ivory sales in the province. They seized some 10,000 pieces of finished or semifinished ivory products whose value was initially estimated at more than 100 million new Taiwan [NT] dollars. Here is a report by Huang Chien-ping: [begin recording]

Huang: [sentence indistinct] In the afternoon, the Executive Yuan's Wildlife Protection Group and the police, acting on the tip, went to the Hsiangyacheng herbal medicine shop on Chengkung First Road in Chienchin District, Kaohsiung city, to crack down on the illegal trade. They seized a large quantity of ivory, including 12 pieces of ivory that had not been cut, and some 10,000 pieces of ivory goods. Chang Yu-cheng, director of the Agriculture Council's Forestry Department, said:

Chang: In Taipei, we solved an illegal smuggling case involving more than 1,000 pieces of ivory. Acting on a tip provided by an individual, we went to Kaohsiung today and acted in concert with the criminal police force.

Huang: Chang Yu-cheng said: According to preliminary estimates, the ivory shipment is worth more than NT\$100 million. The shopowner, Lin Weng-shou, argued that the ivory products in his shop were imported legally. The police are still determining whether the ivory shipment in question is legal, and they are investigating its source and destination.

This has been a report by China Broadcasting Corporation reporter Huang Chien-ping from Kaohsiung. [end recording]

Wildlife Breeders To Protest U.S. Trade Sanctions

OW2605103894 Taipei CNA in English
0723 GMT 26 May 94

[Report by Luian Wu]

[Text] Taipei, May 26 (CNA)—Wildlife breeders protested outside the Council of Agriculture (COA) Thursday [26 May], urging the council to allow them to sell the animals they have raised.

The animal breeders, with animals in tow, gathered outside the council to argue against wildlife protection laws which prohibit the sale of their animals.

The breeders argued that they began to raise the animals before the wildlife conservation act, which prohibits the trade and use of protected wildlife, was enacted in 1989.

They said they depend on the sale of their animals not only for themselves but also for their families.

Wildlife breeders have voiced their opposition to COA regulations on several occasions, but this is the first time that they have taken their animals, including a bengal tiger, crocodile, masked palm civets, formosa rock monkeys and formosa reeve's muntjacks.

The private owners said that all the animals were kept in cages and posed no danger to the public.

Weng Chin-huo, a tiger breeder, said that private breeders have done a lot to promote the conservation of wild animals. He complained that the conservationists have completely ignored their contribution to wildlife preservation.

COA officials said that the revised wildlife conservation act, which is now under deliberation in the Legislative Yuan, would address the issue.

The private owners will March to the American Institute in Taiwan, the unofficial U.S. Embassy in Taiwan, to protest U.S. trade sanctions against Taiwan for its alleged trade in rhino horns and tiger parts.

Meanwhile, private breeders of wildlife are struggling to deal with the large number of animals they own which are protected by the wildlife conservation act.

COA statistics showed that there are 128 registered tigers in Taiwan, of which 79 are privately owned. Most of the tiger breeders use bengal tigers.

Tiger breeder Weng said he owns seven tigers, up from two in 1989, and does not know what to do with the now-protected animals.

COA officials said they have contacted the Trade Record Analysis of Flora and Fauna in Commerce (TRAFFIC) about the possibility of returning the tigers to their natural habitats.

But the officials said that India and Thailand have refused the tigers after concerns about tiger attacks on humans.

VANUATU

Government Decides To Restrict Logging, Ban Timber Exports

BK2705075094 Hong Kong AFP in English
0703 GMT 27 May 94

[Text] Port Vila, May 27 (AFP)—The Vanuatu Government said Friday it had decided to restrict logging and ban timber exports to protect the environment of this island nation.

The Council of Ministers made its decision Thursday following a recent environmental study, acting on a recommendation by Prime Minister Maxime Carlot, government spokeswoman Yvette Sam said.

Sam said the decision mainly affected four companies logging on the southern island of Erromango with licences issued last year that allowed them to exceed the quotas recommended in the study.

The government decided to halve the number of logging companies in Erromango to two within a month and to restrict the volume of wood cut in Vanuatu to an annual 25,000 cubic metres (32,500 cubic yards), as recommended by the Australian-funded study.

It would also ban all wood exports from June 15 to encourage processing within Vanuatu.

Representatives of European Union countries told Carlot on May 17 of their concern about the scale of logging in Vanuatu, reminding him of EU funding for sustainable logging projects.

Carlot had promised to take action, saying excess logging was a "serious problem."

VIETNAM

Report Says Mekong Dam May Jeopardize Delta Fertility

BK2705102694 Bangkok *THE NATION* in English
27 May 94 p C7

[First of two-part series by Nanthiya Tangwisuthichit]

[Text] The Mekong Delta, known as the "rice bowl" of Vietnam, may no longer be able to lay claim to that title if proposed hydropower plans affect the fertility of the region.

"Damming the Mekong River is like declaring a war with Vietnam," noted U.S. biologist Dr Tyson Roberts, who has observed the Mekong ecological system since the 1970s.

If Roberts is correct, then the first battle has already begun. Recently completed is the 1,500-megawatt Manwan Dam, the first of its kind on the mainstream Lancang Giang (Mekong River) in China's southern province of Yunnan.

The 4,200 kilometre Mekong River starts its journey from the Tibetan Himalayas passing through southwestern China, Burma, Thailand, Laos, Cambodia and then to Vietnam, where silt carried down the river and deposited in the area for thousands of years has formed a large expanse of over four million hectares of land at the delta.

River dwellers living in Thailand, Laos and Cambodia have noticed the unusually low water levels during the dry season since the dam was built. Vietnam, as the last country the Mekong passes before entering the sea, is no exception.

"We don't have any concrete or clear scientific conclusions about the unnatural reduction of water in the Mekong. But farmers at the delta have already noticed that water levels in the river and connecting canals are lower than they were in former years," said Dr Le Quang Minh, dean of the Water Resource and Land Improvement Faculty, Cantho University.

Cantho is the capital of Hau Giang Province, named after the largest "tail" of the "dragon". In Vietnam the Mekong River is known as the Nine-tailed Dragon, as the river formerly split into nine branches at the delta.

Two of the major branches are the Tien Giang and Hau Giang where webs of thousands of canals have been dug for navigation and irrigation. Giang comes from a Chinese letter meaning river. Today the "dragon" has only seven tails as two of them, Ba Ly and Co Chien, have been filled up with silt deposits.

Crop cultivation and sustainable ways of life in this part of the country are made possible by these tails. Over 50 per cent of rice harvested for local consumption and export are grown in the delta region. Shortly after economic liberalization in 1986, Vietnam became the world's third largest rice exporter after the United States and Thailand.

"Engineers have quite a positive perspective about dams, but I do not. Even though people desire the proposed function of the dam, I wonder whether it will be operated as it was designed. The people who designed it are not the same ones as those who operate it," said Minh.

There are fears that the dam will be operated solely for the purpose of supplying energy without thought given to the effect dam operations will have on the delta region.

"If I were the director, and those dams were designed for generating electricity, I would keep this function as my priority when operating the dam. In the dry season, I would retain water to secure operation of the dam."

"It's the same story with the flood," the water management specialist continued. "If there is a big flood, I don't believe dam operators would retain the water because it could be risky for the safety of the dam."

Due to Vietnam's push for development and wealth, supported by multilateral business and financial agencies, the Vietnamese government strictly maintains its export-oriented policy. Agricultural products, especially rice, are produced for export. High-yield-varieties have been promoted in the delta area. Irrigation systems, as a result, need to be expanded and improved upon to catch up to the expansion of plantation areas.

The An Giang and Kien Giang provinces, west of the delta, as well as Dong Thap province in the East, are in the target areas of such agricultural development. However, the soil in 0.55 million hectares of the area is strongly acidic, 1.05 million hectares is medium and lightly acidic, 0.15 million hectares is permanently saline and 0.16 million has high salinity in the dry season.

The relationship between the soil, water and farming systems in the Mekong delta is so complicated and fragile that any changes in the condition of one component needs to be repeatedly tried and tested before the actual results of the change can be determined.

The Mekong Committee in 1992 hired the Netherlands Development Consultancy to plan irrigation improvement of the acidic areas in the Southwest of the delta. The consultant at that time planned to divert the water from the Hau Giang River to lower the acidity levels.

But the plan has not been implemented as detailed studies are needed to find out how much water should be used. Too much water for irrigation means not enough water at the mouth of the Hau Giang to maintain the natural conditions of salinity from the South China Sea.

While hydro engineers dream to tame the Mekong by controlling natural floods and drought, what never seems to be taken into account is the ecological implications when the natural flow is disrupted by huge concrete structures such as dams.

SLOVAKIA

IAEA Mission Notes Need for Improvements at Mochovce

AU2605110894 Bratislava PRAVDA in Slovak
21 May 94 p 2

[TA SR report: "The Concept Is Good, But...."]

[Text] Mochovce—Without further expert analyses and, most important of all, the realization of measures, the depository for radioactive waste being built near the Mochovce nuclear power station in Levice district cannot, given its present state, be considered prepared to meet the task assigned to it. This was stated, among other things, by Douglas Champ from Canada, the head of a team of International Atomic Energy Agency

[IAEA] experts, at a news conference in Mochovce yesterday. Since the beginning of this week, the international group of experts has been studying in Mochovce all important aspects of radioactive waste storage at the depository adjacent to the power station, possibilities of enhancing the depository's safety, requirements for control, technology, and professional qualifications of the maintenance staff, as well as the progress of finishing work. The experts reached the conclusion that the concept of storing radioactive waste to be used at Mochovce is good and that, following the implementation of recommended measures, storage will be reliable and safe. According to Douglas Champ, the recommendations will encompass a wide range of ideas, ranging from design, construction, specifications of the waste, and measurement of limits, down to public relations.

REGIONAL AFFAIRS

Southern Cone Environmental Issues

PY2005160094

[Editorial Report] The following is a compilation of reports on environmental issues monitored through 19 May.

Brazil

On 17 May, 10,000 metric tons of oil from the Madre de Deus terminal of the Mataripe refinery contaminated beaches in Salvador State and the northern coast of Bahia State. The Environment Resources Center hold the Brazilian Petroleum Corporation responsible. This is the second time the Todos os Santos Beach has been contaminated in 10 days. (Rio de Janeiro O GLOBO in Portuguese 18 May 94 p 9)

Lead pollution has caused the deaths of approximately 50 head of cattle and horses in Pindorama, in Sao Paulo State. Analysis showed a high concentration of lead in the kidneys of the animals. The State Basin Sanitation Engineering Company has set late June as the deadline for the Incometal company, which is responsible for the pollution, to install pollution control equipment. (Sao Paulo O ESTADO DE SAO PAULO in Portuguese 19 May 94 p A12)

Peru

The Central Peru Mining Enterprise and the Huaron, El Brocal, and Animon mining companies are seriously contaminating the Junin Lake located between the Pasco and Junin Departments. They are dumping chemical waste and metals like zinc, copper, gold and silver into the lake through the San Juan and Huayllay Rivers. The pollution affects 80 percent of the lake which measures some 1,184 square kilometers. Nearly 120 species of birds used to populate the lake during their annual migratory cycle. Today not one species remains. (Lima LA REPUBLICA in Spanish 30 Apr 94 p 15)

Thousands of fish died last weekend as a result of the waste contaminating the beach at the residential zone of Santo Domingo in Pisco region. Peruvian researcher Ronald Woodman terms this "an ecological crime" and notes that pollution has affected this region for many years. He said it may endanger the Paracas National Reserve, near Pisco. (Madrid EFE in Spanish 1924 GMT 9 May 94)

The Information and Education Center for the Prevention of Drug Abuse has reported that coca growing expansion has caused the deforestation of approximately 70,000 hectares of the Peruvian Amazon. This represents 10 percent of all deforestation since it began early this century. Chemicals used by coca growers to process cocaine base in Huallaga are seriously affecting the ecosystem because large amounts of waste from maceration pits installed near rivers are contaminating the waters and exterminating many species. Approximately 37 million liters of kerosene, 37 million liters of sulphuric acid, 16,000 metric tons of lime, and 16,000 metric tons of toilet paper have been used to process cocaine paste. (Lima LA REPUBLICA in Spanish 9 May 94 p 8)

Uruguay

An accident in the oil refinery plant owned by the National Administration of Fuels, Alcohol, and Portland Cement, on 14 May contaminated the Montevideo beach. Approximately 400,000 liters of liquid asphalt spilled into the River Plate as a result of a fault in a tank at the La Teja plant at one end of the port of Montevideo. (Madrid EFE in Spanish 2149 GMT 14 May 94)

Manuel Romay, the housing, land improvement and environment minister, opened a seminar in Montevideo on 16 May. The seminar deals with substances harmful to the ozone layer. He said that in face of the increasing deterioration of the ozone layer, the Housing, Land Improvement, and Environment Ministry will control the use of substances harmful to the ozone layer, including the creation of the "Ozone Friend" seal which will identify products that lack toxic substances. (Montevideo LA MANANA in Spanish 17 May p 10)

CHILE

Businessmen Reject U.S. Conditions for Free Trade Agreement

PY2605160994 Madrid EFE in Spanish
1614 GMT 24 May 94

[Text] Santiago, 24 May (EFE)—Chilean businessmen fear that the labor and environmental demands that various U.S. organizations want to introduce into a free trade agreement with Chile would leave this country out of the competition.

Jose Antonio Guzman, president of the Production and Trade Confederation, said that the demands being rejected by Chilean businessmen are sectoral collective negotiation and mandatory unionization, which have already been left behind in Chile.

The businessmen also reject the environmental regulations for production, which according to Guzman exceed the Chilean capabilities of investment, and is a requirement that is not even met in the United States.

Guzman made this comment to the local media after returning from the United States, where he contacted various U.S. organizations, including union leaders.

Regarding the talks he had held, Guzman said he perceived strong pressure to impose the labor and environmental regulations in the future free trade agreement to be negotiated between Chile and the United States.

In reference to the environmental demands, Guzman said: "We have to be very careful and alert, because a clause of protectionism under the disguise of protecting our interests could be introduced, which is logically something we will not accept."

Regarding the labor clauses, Guzman said the two suggested regulations have already been left behind in Chilean labor legislation, and that business is not willing to reincorporate them "because they are harmful to various labor sectors and consumers."

He added that Chilean business is willing to reach an agreement with the United States, but only, he added, "if it is beneficial for the country, and does not impose environmental or labor regulations that exceed Chilean capabilities and leave us out of the competition."

Guzman explained that his organization is studying the advantages and disadvantages of joining NAFTA, or the possibility of a free trade agreement with the United States.

Guzman said the businessmen will thoroughly study the two choices before issuing a declaration.

Chile and the United States reaffirmed their decision to sign a free trade agreement, to be defined during the negotiations.

MEXICO

Mexico Urged To Support Broader Whale Sanctuary Proposal

PA2705125694 Mexico City XEW Television Network in Spanish 0430 GMT 26 May 94

[From the "24 Hours" newscast]

[Text] The Group of 100 and the Environmental Research Agency on 25 May urged the Mexican delegation, which is participating in the 46th Annual Conference of the International Whaling Commission (IWC), to avoid making changes in a French proposal to establish a sanctuary for this animal in Antarctica.

Mr. Homero Arigis, president of the Group of 100, and Catherine Helmsly, who heads the whale program of the Environmental Research Agency, said that the original

plan was to demarcate the sanctuary at 40 degrees latitude south across the Indian, Pacific, and Atlantic Oceans. The Mexican proposal, however, is to demarcate it somewhere between 50 and 62 degrees latitude south, which would entail the reduction of thousands of kilometers where the capture of whales would be banned.

Mr. Homero Arigis said: Mexico has joined Chile, Switzerland, Sweden, and Monaco in supporting this proposal, and, in doing so, Mexico is obstructing the original French proposal without giving it an chance. This move was called divisive and contradictory to the position publicly announced last week by President Carlos Salinas de Gortari.

The two organizations pointed out that the Mexican delegation must explain the reason for its change in position on the protection of whales, adding that its reply should be reflected in the way it votes on the sanctuary issue.

Mr. Homero Arigis said: In terms of protecting the sea cow, which is the most threatened and most common marine cetacean in the upper Gulf of California, this year the IWC Scientific Commission has estimated its total population at 316. An IWC delegation has proposed a resolution to protect sea cows at this meeting. The Mexican delegation, however, replied that Mexico prefers the noninclusion of this resolution on the IWC meeting's agenda.

The Group of 100 and the Environmental Research Agency ruled out that Mexico will sell its vote, but both groups noted Japan is capturing whales in Mexican seas. They recognized Japanese sovereignty, but asked this Asian nation to also enforce international sovereignty and to modify its customs, as Mexico did when it stopped consuming sea turtle eggs.

INDIA

National Environment Council Holds First Meeting

94WN0285A Bombay THE TIMES OF INDIA in English 26 Apr 94 p 1

[Text] New Delhi, April 25—The Prime Minister, Mr P.V. Narasimha Rao, today underlined the need for a proper balance between development and environment, reports PTI.

Presiding over the first meeting of the National Environment Council (NEC) here, Mr Rao reiterated government's commitment to alleviate poverty through development but cautioned that the race for development should not be at the cost of damaging the nature.

The Prime Minister stressed for a proper blend of technological advances with the ancient wisdom to ensure that one could live in harmony with nature. "We must look for our own innovation to meet the pollution control requirements," he said, adding that the choice of methods should be limited to least pollution ones.

The 112-member body was constituted recently by the government to function as a "think-tank" on important environment policy matters and to advise the ministry of environment and forests. The Prime Minister is the chairman with minister for environment and forests as the vice chairman.

The council includes all state and Union territory ministers for environment, secretaries of several ministries and departments of Central government, heads of national institutions and representatives from commerce and industry, eminent environmentalists, journalists and activists.

The Prime Minister said that the role of the ministry to control pollution and promote balanced growth through environmental impact assessment should not be considered as an impediment in development. It should be viewed as an enabling one, he said.

Calling for greater efforts towards afforestation, he expressed his happiness that the scheme has started bearing fruits as shown by satellite imagery.

He recalled that the late prime minister, Ms Indira Gandhi, was the only head of government in 1972 to focus the world attention on environment which has caught the attention of the whole world today.

Saying that co-operation at international level was the only way for survival, the Prime Minister said the developed world has the technology to deal with the situation while the developing countries like India have the traditional ethos and "there the two have to supplement each other."

Welcoming the delegates, the minister of state for environment and forests, Mr Kamal Nath said the NEC has been constituted as the protection of environment was not the sole preserve of a single ministry.

He said it was not even within the exclusive capability of the government system as a whole, whether at the Centre or the states.

Mr Kamal Nath said that there is a feeling that his ministry should present an environment survey of the country to Parliament every year, parallel to the economic survey. This survey should project the extent of nature of the "environmental deficit" together with the strategy to reduce it.

Minister Urges More Equitable Sharing of Earth Resources

BK2705061294 Delhi Doordarshan Television Network in English 1630 GMT 26 May 94

[Text] India has called for a more equitable distribution of the earth resources. The environment minister, Mr. Kamal Nath, told the UN Commission on Sustainable Development that there should be a change in pattern of consumption, favoring lesser use of energy and lesser waste. The minister was addressing the commission in New York yesterday. Mr. Kamal Nath said unless the gap between the quality of life in the developing world and that in the developed nations is narrowed down, there can be no sustainable development. Mr. Kamal Nath said developing countries cannot be expected to be frozen at some marginal level of subsistence. He said even a marginal reduction in consumption by rich people in advanced countries could make a large number of poor people better off without affecting the rich. He welcomed the beginning made with the Global Environment Facility, the GEF, but cautioned that the gains of the GEF will be overwhelmed if they are not followed expeditiously.

PAKISTAN

'Massive Tree-Felling' Reported in Thatta

BK2005104794 Karachi DAWN in English 12 May 94 p 12

[Text] Thatta, May 11—Massive tree-felling has been occurring in the district which can be gauged from the fact that some 200 trucks loaded with wood reach Karachi from here everyday.

While the rest of the world is striving to combat pollution and arrest environmental degradation, rapid destruction of forests in Thatta district is posing a serious threat to the environment and the picturesque landscape.

According to official data, Babool seed broadcasting has been carried out on 10,569 acres from 1990 till now as against that, 12,000 acres have been denuded by illegal tree-felling during the same period.

Sources in the forest department claim that the department earned Rs [rupees] 8.6 million by selling wood only during 1992-93, whereas a large quantity of wood was given to the favourites of some influential persons, free of cost. Some 3,569 acres of forest land were leased out to abadgars for cultivation, the sources added.

Out of 36 small and big forests spread over 138,000 acres in Thatta district, nine riverine and inland irrigated forests on 8,900 hectares have been selected and Babool seed broadcasting has been carried out with the assistance of the Asian Development Bank. The bank has allocated Rs 1144 million for afforestation in Sindh. The scheme will take seven years to materialise.

Enumerating reasons for the deforestation, the sources said that since the operation of the Ghulam Mohammad Barrage (Sukkur Barrage) in 1957 and its four major canals—Phuleli, Pinyari, Channel and K.B. Feeder—on the Right Bank of the Indus, water has been diverted to irrigated areas which resulted in short water supply to forests and caused their destruction.

Envoy Urges Transfer of Resources for Environment Programs

BK2705062394 Islamabad Radio Pakistan Network in Urdu 0200 GMT 27 May 94

[Text] At the United Nations, Pakistan has proposed that resources from the public sector, especially from industrially developed countries, should be transferred to developing nations for environmental protection so the process of sustainable development can be continued. Addressing the high-level meeting of the UN Commission on Sustainable Development, Begum Nusrat Bhutto, the prime minister's special envoy, proposed that resources should be allocated for creating awareness among the people about programs which can help protect the environment and eradicate poverty. She said that Pakistan believes in the process of sustainable development and like other countries is also deeply concerned over the deteriorating natural environment. She said that Pakistan feels concrete steps should be taken at global and national levels for continued development. Begum Nusrat Bhutto said that the Government of Pakistan is aware of the importance of environmental protection and the matter always remains in view while making decisions at every level.

RUSSIA

Yeltsin's Aide Calls For Return of Processed Nuclear Waste*LD2005085994 Moscow ITAR-TASS in English
0826 GMT 20 May 94*

[Report by ITAR-TASS correspondent Veronika Romanenkova]

[Text] Moscow May 20 TASS—"The now existing inter-governmental agreements on the processing of radioactive wastes on Russian territory may be revised. In any case, the Inter-departmental Commission for Ecological Safety of the Russian Security Council has moved to include without fail an article in those documents, laying down that the processed wastes should be returned to the countries from where they had arrived," Chairman of the Commission Aleksey Yablokov stated here today.

There are several legislative acts in Russia today, regulating the processing of foreign radioactive wastes on its territory. For instance, the law on the protection of the environment prohibits the import and storage of such wastes on Russian territory. However, Russia's inter-governmental agreements with Finland, Bulgaria, Czechoslovakia, and the former German Democratic Republic stipulate that wastes from nuclear power plants, built in those countries with the participation of the USSR, should be processed in Russia. No such document was signed with Hungary. Yablokov said that Russia could, in principle, continue the job of processing radioactive wastes, but only at the request of foreign states, on a commercial basis, and with their obligatory "repatriation".

There is a special plant at Chelyabinsk-45, but it is able to process wastes only from nuclear-propelled submarines and VVER-type reactors. The construction of the Krasnoyarsk-26 plant, designed to process wastes from RBMK (Chernobyl-type) reactors, has still not been completed. More than two trillion roubles are needed to finish the project. Yablokov said that the Russian Ministry for Atomic Energy was planning to meet a part of this sum by concluding an agreement with Hungary. However, the money that it will get from this is obviously not enough, the specialist said.

Yablokov also believes that "it is high time to revise the closed nuclear cycle concept", used until now. According to this system, enriched uranium and plutonium from nuclear power plants were used to make nuclear warheads. But since they are no longer needed, radioactive materials could "simply be kept for several tens of years" in special storages. They would lose much of their radioactivity by the end of that period and could be safely buried.

Lemeshev Views Work of Duma Environment Committee*94WN0283A Moscow SPASENIYE in Russian
No 6, Feb 94 p 1*

[Interview with M. Ya. Lemeshev, chairman of the Environmental Committee of the State Duma of the Russian

Federation Federal Assembly, by V. Mikhaylov; place and date not given: "Health of the People Is of Paramount Importance"]

[Text]

Mikhaylov: Mikhail Yakovlevich, first of all I would like to congratulate you with assumption of your new post and your selection as chairman of the State Duma Environmental Committee. Even though many currently believe that environmental issues are not of the greatest importance in today's life, that there certainly are more important matters. Do you agree with that?

Lemeshev: I am firmly convinced that revival of Russia and of the Russian people, which is talked about by one and all today, is impossible without resolution of ecological problems. This is determined by the fact that in itself the ecological situation in the country is simply catastrophic, which is understood by all and which requires no explanation. Today, in fact, we are talking about survival. Look at the demographic aspect. There exists an absolutely despondent situation—in essence ethnic Russians are dying out. Scientific research conducted by authoritative scientists, including American and Japanese scientists, indicates that now 40 percent of the children are born already sick. What will happen to them in adult life? Two-thirds of all the diseases today are associated with the unfavorable state of the environment. In Russia this is more pronounced than in the West.

First of all pollution of the environment in cities with populations of over one million is alarming. Water quality there, as a rule, is poor (it is generally poor everywhere in our country), food contains pesticides, nitrites, and various biological additives. At the same time, what is of interest is that this applies not so much to domestically produced goods as to those that are imported. Advertising, propaganda, and attractive packaging, and we are still susceptible to all of that, do their job. Developed countries frequently sell us whatever is not in demand at home. By the way, many of the western countries have rigid environmental protection laws.

In my opinion we must concentrate specifically on improving the health of our people. That is a priority task. Yes, biodiversity, problems of protected territories—that is important, that is good, but the most important factor is the health of the people.

Mikhaylov: But all this requires money and, I am assuming, quite a lot of it. Where is it coming from? At whose expense? There is so much talk about the poverty of the state treasury and the incredible deficit of the state budget. You, as a member of the State Duma, must take into account the conditions of our reality. Is all that you talk about so convincingly realistic from the financial viewpoint?

Lemeshev: As an economist, I am quite disturbed by the currently widespread view that since the economy is in a state of crisis, it is impossible to deal with environmental problems in the given period. After it improves, then we will concern ourselves with ecology to the fullest extent. What is most lamentable is that this, in my opinion, harmful concept is finding a response among the people.

That is understandable: the people are barely surviving and, as it is said, never mind the butter when survival is at stake. That is basically wrong. Without the resolution of environmental problems we will never improve the economy—that is my profound conviction.

Here is a vivid example. Under conditions involving environmental pollution people become ill more seriously and frequently which, in turn, affects the efficiency of production. Does that affect the national economy or not? Colossal sums are needed for treatment, purchase of medications and building of hospitals—doesn't that place a burden on the economy? Only totally myopic people are failing to see this.

All right, let us take the production of fabrics as an example. Not just water but pure water is needed in order for the fabric to be of good quality. Would it not be cheaper to avoid polluting the water to start with rather than spend huge amounts of money later on its purification? Understand that it is impossible to separate economy and ecology—it is a single metasystem. I would like to mention something else: there are no ecological problems of one or another country and the resolution of ecological problems is impossible within the framework of a single country. Let us say, the Scandinavian countries have made considerable progress in the resolution of environmental problems, but 90 percent of the environmental pollutants come to them from other countries.

Mikhaylov: That is only a general overview of the task. In your opinion how and with what practical steps should your committee start its work? Which draft laws do you believe are of primary importance in the sphere of environmental protection?

Lemeshev: I do not want to start complaining about the lack of facilities right off but at present 15 deputies and as many office workers have only two small rooms, there are no typewriters, computers, or technical means and equipment for accounting, planning, and analysis of operations. I do not know how we will be able to work.

As far as legislative work of the committee is concerned I believe that preparation of a draft law on ecological disaster zones is a matter of overriding importance. True, it is today possible to designate all of Russia as an ecological disaster zone, but there are some areas that are worse off such as, for instance, the Chernobyl disaster zone, regions with a concentration of chemical and petrochemical production and places where hydrocarbon raw materials are extracted in the northern part of Russia which constitutes a severe blow to areas inhabited by minority people. A law dealing with ecological studies by experts, not at the agency level as it is now, but at the federal state level, with widespread participation of the public, is highly necessary. Only then will we be able to bar projects which destroy nature and man himself.

Is legislation on drinking water not important, is it not necessary to create supplements to the Criminal Code dealing with responsibility for ecological crimes? So there is a whole lot of work to be done.

Mikhaylov: Mikhail Yakovlevich, looking through the list of the members of your committee I noticed its considerable diversity: it includes members from the Russian Choice, communists, DPR [Democratic Party of Russia] members, and you yourself represent the LDPR [Liberal Democratic Party of Russia]. Does it seem to you that such political discord can interfere with the normal lawmaking activities of the committee? Moreover it is necessary to establish constructive relations with the Russian Federation Ministry of Environmental Protection and Natural Resources.

Lemeshev: As far as the latter is concerned I feel rather optimistically inasmuch as the minister himself, Viktor Ivanovich Danilov-Danilyan, is a member of our committee and, at least for the present, we have a mutual understanding with respect to all of the issues. Even though I am familiar by hearsay with an impartial polemic between Danilov-Danilyan and Aleksey Vladimirovich Yablokov, chairman of the Russian Federation Interagency Commission on Environmental Safety, which developed on the pages of NEZAVISIMAYA GAZETA, I feel uncomfortable when disputes develop between such highly respected people. It is simply the scourge of our Russian intelligentsia. We must reject agency, political, and professional ambitions where the common good is concerned. We must alter our psychology. I view the work of our committee with hope because I feel convinced that the task concerning preservation of the environment is capable of unifying people with highly divergent political views.

Note from SPASENIYE

Mikhail Yakovlevich Lemeshev was born in 1927. He is Russian and a doctor of economic sciences. He is also an academician of the Academy of Economic Sciences of Russia where he heads the Department of Ecology. He authored 12 monographs two of which, "The Ecological Catastrophe in the USSR," and "Power of the Agencies—Ecological Collapse," were published abroad but have not yet been printed in our country. In the State Duma he belongs to the LDPR faction.

Government Concerned Over Radioactive Waste Pollution

LD1905222594 Moscow ITAR-TASS in English
2051 GMT 19 May 94

[Report by ITAR-TASS correspondent Mikhail Shevtsov]

[Text] Moscow May 20 TASS—Liquid radioactive waste products of the "Zvezda" works in Primorye maritime region will be dropped into the Pacific Ocean, unless urgent measures are taken to collect, preserve and process them, the press centre of the Russian Ministry for Emergencies announced on Thursday.

In expert opinion, the situation at the works is controllable so far, but in three months all the available tanks for collecting the waste products will have been filled to capacity.

The Russian Government instructed the ministries and departments concerned to suggest possible wayouts. The Ministry for Emergencies, the Ministry for Nuclear

Industry, the Ministry of Public Health and naval forces proposed several ways to solve the problem, but they cannot be realised for lack of funding.

'Text' of Yeltsin's Greeting To Ecology Body

LD1905225294 Moscow ITAR-TASS World Service in Russian 1747 GMT 19 May 94

[Text] Moscow, 19 May (ITAR-TASS)—Russian President Boris Yeltsin today sent greetings to the organizers of the All-Russia Days of Protection Against Ecological Danger. The text of the message has been issued by the president's press service:

"To the organizers of, and participants in, the All-Russia Days of Protection against Ecological Danger;

The All-Russia Days of Protection Against Ecological Danger are taking place in our country for the first time, from 15 April to 5 June 1994. I wholeheartedly welcome the initiative to stage them.

I regard the action as timely and necessary.

Protection of the natural environment is one of the Russian state's priority tasks. To ensure ecological safety, the government is drawing up a long-term state strategy that envisages widespread use of the vast potential of Russia's military-industrial complex. I think it will also be useful to have special ecological subunits within the Russian Army that will be able not only to eliminate the serious ecological consequences of their activities, but also to clean up industrially polluted areas, especially in ecological disaster zones.

It is our common duty to combine our efforts and do everything possible to see that our towns and villages are green, and that the air, land, and water at our places of work, in our enterprises, around our own homes and throughout our motherland are pure. Russia needs a program of ecological regeneration. Such a program can only be drawn up by the whole of society—the government, parliament, entrepreneurs, parties, scientists, and public ecological organizations. I support the idea of convening an all-Russia congress on ecology and environmental protection to adopt such a program.

Having inherited our native natural conditions from our ancestors, we, the people of Russia, are obliged to bequeath them to our children and grandchildren in all their original beauty. I sincerely hope that the All-Russia Days of Protection Against Ecological Danger will help us all to recognize the importance and responsibility of this task.

I wish you success, dear friends, in the noble cause of preserving Russia's natural environment.

[signed] B. Yeltsin."

Pacific Fleet Official Downplays Radiation Hazard

OW2005061594 Moscow Russian Television and Dubl Networks in Russian 0605 GMT 18 May 94

[V. Voropayev report over video; from the "Dalniy Vostok" program]

[Text] Representatives of the Pacific Fleet consider the concern of domestic and foreign nature conservationists about the problem of liquid radioactive waste in the Maritime Kray unfounded. [Video shows archive footage of nuclear submarines being dismantled, tankers at wharf] Valeriy Danilyan, chief of the fleet service of radioactive and chemical defense, related at a meeting with Greenpeace movement activists that the radioactivity of this waste was so low—0.07 to 0.08 curie—that it could be compared to the background radiation of the Sea of Japan, and did not endanger it in any way. Furthermore, the economic expenses of constructing an unnecessary, in principle, complex for processing the waste promise to be very substantial. However, international experts do not share such a complacent attitude, and believe that both Russia and Japan, which volunteered to help it, procrastinate in an unforgivable manner in solving the problem of utilization of nuclear waste in the Maritime Kray.

Vice Premier Notes 'No Improvement' in Ecological Situation

94WN0274A Moscow SPASENIYE in Russian No 7, Feb 94 p 1

[Unattributed report under the rubric "It Is Official": "Deputy Prime Minister Zaverukha's Opinion: No Improvement"]

[Text] Deputy Prime Minister Aleksandr Zaverukha, whose duties in the Russian Federation government include environmental protection oversight, noted that despite the stoppage of many hazardous enterprises in industry, the ecological situation in the country has not improved and still leaves a lot to be desired.

According to data of the Rosgidromet [Russian Federal Service on Hydrometeorology and Environmental Control] Main Geophysical Observatory, the air basin over a considerable number of cities (observations were made in 247 Russian cities) remains unhealthy. In the 44 cities with the most polluted air basin (the so-called priority list), it increased considerably between 1988 and 1992. Pollution by certain ingredients increased somewhat in 15 cities. Only in 18 cities has it practically not changed or declined slightly because of the drop in production. For instance, in Irkutsk, Krasnodar, and Saratov the average concentration of formaldehyde increased severalfold and exceeded the MAC [maximum allowable concentration] by a factor of six to seven. In Kemerovo the average concentration of carbon bisulfide reached six MAC (a sixfold increase); in Krasnodar the concentration of phenol in the air increased from two to three MAC. The nitrogen oxide, dust, and phenol concentration increased in Lipetsk (to 1.5-2.9 MAC); nitrogen dioxide and ammonia concentration in

Saratov—to 2.0-2.9 MAC; and in Cherepovets the concentration of carbon bisulfide increased from 3.2 to five MAC in Bratsk and from 2.4 to 3.8 MAC. The degree of air pollution in the capital remains very high; the concentration of phenol did decrease, but at the same time there was an increase in the concentration of nitrogen dioxide (mainly because of increased automotive traffic).

The hygienic state of air basins over the cities on the priority list has changed to a different extent over the past five years. For instance, the concentration of ammonia, formaldehyde, and nitrogen oxides increased in St. Petersburg; of carbon oxide, formaldehyde, and carbon bisulfide—in Barnaul; of carbon oxide, formaldehyde, and carbon bisulfide—in Orenburg; of phenol and nitrogen oxides—in Ryazan; and of phenol, ammonia, and nitrogen oxides—in Kazan. The air quality has not changed perceptibly in Perm, Kaliningrad, Groznyy, Samara, Ivanovo, and Vyatka.

Water reservoirs. Observations of dry land surface water pollution are conducted at 1,341 reservoirs in 2,624 ranges. At 851 of these ranges (32 percent) the average annual concentration of at least one pollutant exceeds the MAC by a factor of 10 or more. This ratio has not changed perceptibly over the past few years.

According to official data, in 1992 as compared to the preceding year in water reservoirs with a high degree of pollution the quality of water improved at 35 ranges, deteriorated at 99 ranges, and remained basically unchanged at 717 ranges.

Overall, the level of pollution of water reservoirs on the territory of Russia remains high.

There has been a serious deterioration in the water quality in the largest Siberian rivers—the Ob, Irtysh, Vakh, Taz, and their numerous tributaries, where the concentration of petroleum products increased from five-10 MAC in the early 1980's to 10-60 MAC in the early 1990's, and of phenols—from three-eight to 10-45 MAC, respectively. This is a result of the low efficiency of environmental protection measures of oil- and gas-producing enterprises and river transport.

The level of pollution of Volga water reservoirs remains high—the content of many pollutants in them, including petroleum products, phenol, copper, and nitrogen nitrite measures five-15 MAC. The eutrophication process there continues to progress at a faster rate.

There has been a substantial deterioration in the condition of rivers in Tula Oblast, where in the upper reaches of the Don, Shatskiy reservoir, and Ula river the concentration of phenol and nitrogen compounds increased from two-eight to 20-35 MAC—a result of operations of Novomoskovsk industrial complex chemical enterprises; the situation also deteriorated in Stavropol Kray rivers. Here, because of the unsatisfactory work of city purification systems the concentration of petroleum products increased from four-five to 20-50 MAC; of suspended particles—from 150 to 950 mg per liter, and of organic substances—from 50 to 100-300 mgO₂ per liter.

Over the past four years the Moscow river has unfailingly made it to the priority list of the most polluted water

reservoirs in the country; the average annual content of phenol and nitrogen compounds in it measures 10-15 MAC, with a trend toward an increasing level of pollution.

Monitoring data on dry land surface waters for 1992 showed practically no change in the trends of pollution levels at water reservoirs in Russia: the Kola Peninsula rivers, the Oka and Ob basins, and rivers in the Urals industrial region remain the most polluted water reservoirs.

The results of the 1993 monitoring are currently being processed; the work will be finished in February.

Alarm Sounded on Quality of Drinking Water

PM1105111594 Moscow ROSSIYSKIYE VESTI
in Russian 6 May 94 p 4

[Article by Vladimir Karasev, secretary of the Interdepartmental Committee for Ecological Safety, under the "Ecology" rubric in the "Prescription" section: "We Drink Dirty Water...But There Are Sufficient Reserves of Clean Water for the Whole Planet"—words between slantlines are printed in boldface]

[Text] Groundwaters [podzemnyye vody] need no lengthy explanation. They are above all a source for the population's domestic and drinking water supply. In addition, mineral medicinal and table waters are used for balneological purposes, high-temperature (thermal) waters for thermal energy needs, and mineral-rich natural leachates for the extraction of minerals: iodine, bromine, lithium, and so forth. Groundwaters, especially those in the aquiferous strata nearest the surface, in many ways determine the ecological state of landscapes, that is, they determine directly how favorable conditions are for the functioning of the human organism.

Because groundwaters are better protected from pollution (than surface waters), they are used on a massive scale in many countries of the world to satisfy the population's drinking water requirements. In the United States groundwaters are the source for 75 percent of communal water supply systems; they satisfy the requirements for potable water of around half of the country's population. Groundwaters play a great role in the water supplies of Germany, Australia, China, and other countries.

Unfortunately, the use of groundwaters for drinking water in the Russian Federation, lags way behind former USSR and other countries. The list of cities in which surface waters are the only source of domestic and drinking water supply includes such metropolises as Moscow, St. Petersburg, Nizhniy Novgorod, Yekaterinburg, Omsk, Rostov-na-Donu, Vladivostok, and many others. But since surface waters are essentially not protected against possible pollution, the population of these cities is constantly threatened with the drinking-water supply being cut off.

At the same time the use of groundwaters, reliably protected from pollution as they are, is of great strategic significance, since they are the only drinking-water source during emergency situations, as is convincingly demonstrated by what happened in Kiev and a number of other population centers when the surface water supplies were shut down as a result of the Chernobyl catastrophe.

Deep below the Russian Federation there are significant potential reserves of fresh [presnaya] groundwater, estimated at more than 300 cubic kilometers per year. /This quantity of fresh water is sufficient to supply the entire population of the planet with drinking water./ Reserves of groundwater that have been prospected and are ready for use, including some that have been adapted for industrial use, exceed the reserves that are currently tapped. Why is this? The small degree of exploitation is partially to be explained by the fact that reserves in many deposits have been prospected to satisfy needs in the years 1995-2000. However, the main reasons are inadequate financing, poor material and technical support, and the incorrect strategic policy carried out by water resources organizations. This results in a situation in many regions, where because of the insufficient use of groundwaters to meet the demands for drinking water, there is effectively an ecological risk to the population, forced as it is to use surface waters, which are unprotected against direct pollution.

Thus, the chief merit of groundwaters is their higher degree of protection in comparison to surface waters. Therefore, in natural conditions, as a rule, fresh [presnyye] groundwaters meet the regulation requirements for drinking water. However, in terms of the degree of protection against pollution, a distinction is made between groundwaters in aquiferous substrata nearest the surface, which are mostly insufficiently protected against pollution, especially in river valleys, and artesian waters from deep aquifers, which are mostly reliably protected against pollution.

Despite the higher degree of protection, cases are not infrequent where fresh groundwaters contain this or that component in concentrations which do not satisfy existing standards. You can single out a number of hydrogeochemical provinces on the territory of the Russian Federation which are characterized by the drinking-water's high content of components that are subject to restrictions. Such elements include fluorine, iron, manganese, strontium, selenium, arsenic, and beryllium.

But a high content of components subject to restriction is not an obstacle to the use of such waters, since the water quality can be brought up to the required standards through the use of various water treatment methods (defluorination or fluorination, deferrization, and so forth). Because of the stability of this content, the water treatment of groundwater supplies is cheaper than the purification of polluted surface waters.

Undoubtedly more dangerous is the human pollution of groundwaters linked to various forms of economic activities, since such pollution is characterized by the exceptional diversity of the pollutants; moreover, for some of them virtually no purification methods have been developed. Long-term and ecologically dangerous sources of pollution include sewage settlement tanks and the solid waste from industrial and municipal enterprises, livestock complexes, mineral fertilizer and toxic chemical depots, oil storage facilities, fields irrigated by sewage waters, and other facilities. In the period 1985-1992 pollution was recorded in 280 drinking-water supplies situated in 60 Russian cities and settlements.

In Samara and Penza Oblasts 55 water intakes with signs of pollution of the groundwaters have been discovered. In individual water-intake boreholes in the Tolyatti region, groundwater polluted by benzene, phenols, petroleum products, formaldehyde, titanium, methanol, sulfanol [as transliterated], and aluminum have been discovered. In many population centers pollution is linked with the effect of technological operations at industrial, municipal, and agricultural facilities. Four boreholes with nickel levels in excess of the maximum permissible concentration [MPC] have been recorded in the region of the Monchegorsk Combine.

On the territory of Novyy Urengoy, industrial facilities and a development site were found to be situated within the second and third bands of the health protection zone of the city's water supply intake. On the territory of Saratov Oblast pollution of artesian waters has been recorded in sectors of existing water intakes. In 13 sectors nitrogen-containing compounds (livestock-raising complexes), ammonia gas and polymetals (areas where there are ponds and municipal and industrial waste settlement tanks), toxic chemicals and nitrates (in areas with irrigation systems), petroleum products (around bulk plants), and chlorides and sulphates (in water-intake areas) have been detected in groundwaters. In certain cities and population centers the deterioration in the quality of groundwaters is a result of substandard water being drawn in under conditions of a violation of the recommended regulations for operating water intakes (as in Tomsk, and population centers in Arkhangelsk, Smolensk, Samara, Chita, and other oblasts).

The hazard to human health posed by polluted groundwaters is linked first and foremost to water-intake sectors which are being utilized for drinking water. As a rule, this is for the moment localized pollution but the detected quantities of pollutants components and the makeup of the pollution are extremely serious. The following contents of groundwaters used as drinking-water supplies have been established: nitrogen—up to 40-70 times the MPC (Maritime Kray, Samara Oblast); iron—up to 35-40 times the MPC (Novosibirsk and Penza Oblasts); sulfates and chlorides—up to 3-5 times the MPC (Novosibirsk, Orel, and Tula Oblasts); phenols and petroleum products—up to 5-7 times the MPC (Komi Republic, North Ossetia, Orel, Samara, and Saratov Oblasts); strontium and aluminum up to 5-6 times the MPC (Arkhangelsk, Smolensk, Kirov, and Rostov Oblasts, and Maritime Kray).

In some water intakes the presence in groundwaters of silica (Valday and Yekaterinburg), lead (Komsomolsk-na-Amure), and selenium (Upper Pyshma) is being noted in quantities exceeding the MPC.

Unfortunately, we must also talk about the ecological risk caused by polluted groundwaters from the angle of water conservation activity. In the majority of cases this is being carried out unsatisfactorily. The rules for the operation of water intakes are most frequently being violated. For example, in Sakhalin Oblast this was noted at all of the 92 water intakes that were investigated: At 14 of these there

were signs of chemical pollution originating from technological activity. Some 201 potential sources of pollution of groundwaters were brought to light.

As an example one may also cite the pollution of groundwaters at eight existing water intakes in Nizhny Novgorod Oblast. The Teplovskiy water intake which is still under construction is...under threat of pollution. Effluent settlement tanks at enterprises of the chemical industry are the source. The area of pollution has reached 100 square kilometers. Groundwaters contain sulfates, phenols, organic nitrogenous compounds, cyanides, and benzene—all in quantities that considerably exceed the MPC.

In connection with the obvious threat of an ecological risk, certain water intakes are being switched from drinking water supply purposes to industrial water supply purposes.

The water intake at Prigorodny settlement near Kemerovo is a case in point.

Taking Russia as a whole, according to statistics provided by experts, about 1.5 million cubic meters per day (five-six percent) of polluted groundwaters are used for domestic and drinking water supplies.

Groundwaters are not only becoming polluted in the vicinity of the water intakes, but also in areas where they are not being exploited, which is also very undesirable as polluted groundwaters can get into the surface-water runoff and bodies of open water which is particularly dangerous for small rivers. In certain cases, where the groundwaters [gruntovyye vody] do not lie deep, atmospheric conditions and the condition of the soil and vegetation may become impaired owing to evaporation from their level, and there may be a risk of fire (when the groundwaters are polluted with petroleum products). Characteristics of the groundwaters' pollution are given below.

More than 1,200 areas of polluted groundwaters have been brought to light on Russian territory. But this figure does not, it seems, reflect the full picture because by no means all sources of pollution have been checked and investigated. At present, the most reliable information is available on 946 polluted areas, of which 75 percent are situated in the European part of Russia. The table details the structure of the pollution according to the type of economic activity.

| Type of Economic Activity | Number of sectors | Percentage |
|---|-------------------|------------|
| Industry | 395 | 42 |
| Agriculture | 205 | 22 |
| Municipal Services | 110 | 11 |
| Combined effect of various types of economic activity | 236 | 25 |

From the point of view of the degree of danger they present to the human organism (toxicity) and severity of the likely ecological threat, the pollutants detected in groundwaters are divided into:

- extremely dangerous substances (mercury, beryllium, phosphorus, carbon tetrachloride). These have been detected on the territories of Volgograd, Voronezh, Samara, Novosibirsk, and Irkutsk Oblasts, as well as on Sakhalin (in all 15 areas);
- highly dangerous substances (lead, cadmium, fluorine, bromine, arsenic, etc.) These have been detected in the groundwaters of the majority of Federation components situated in the European part of Russia, the southern part of Western and Eastern Siberia, in the Far East, and Kamchatka—some 217 areas;
- dangerous and moderately dangerous substances (nitrates, ammonia, iron, zinc, benzenes, petroleum products, pesticides etc.) Some 714 groundwater areas, analyzed for these constituents, have been found in the Central Regions, on the territory of Kalmykia and Chechnya, in Tyumen Oblast, the Transbaykal Region, and Khabarovsk Kray.

The prolonged consumption of drinking water which does not conform to hygiene standards as regards its chemical composition, causes people to contract various illnesses.

For example, according to statistics from the State Committee for Sanitary and Epidemiological Supervision [Goskomsanepidnadzor], more than one third of water pipelines periodically or continuously provide drinking water with an increased iron content, whose concentration in a number of cases is 5-10 times the permitted hygienic level. Apart from its unacceptability from the point of view of public and domestic sanitation, using such water constitutes a health hazard due to the increased risk of people contracting allergenic illnesses and conditions.

About five percent of the population consume mineral-rich drinking water from artesian wells which is harder than average and containing various salts (chlorides and sulfates), which is causing an increase in the incidence of illnesses of the gastrointestinal tract, kidney stones, renal disease and diseases of the cardiovascular system, is encouraging the onset of arterial sclerosis and hypertonia, and is having an effect on women's reproductive functions.

A study of the sickness rate and medical checkups on the population in Saratov Oblast, have shown that when waters of the type containing hydrocarbonates and possessing increased alkalinity are consumed for long periods, they depress the stomach's secretory function, encouraging the onset of a prehypertonic state in people and increasing the incidence of chronic types of hypoacidic gastritis.

An increase in the concentration of copper in drinking water causes damage to the kidneys' and liver's mucous membranes; increased nickel causes damage to the skin; increased zinc causes kidney damage; and increased arsenic causes damage to the central nervous system. In Lipetsk's drinking water there are increased concentrations of nitrates which are capable of suppressing the body's hemogenic function.

An increase in the number of cases of chronic types of nephritis and hepatitis, an increase in still births, toxoses during pregnancy, and congenital developmental abnormalities among the population of Kemerovo and Yurga are linked to the consumption of drinking water polluted with

nitrogen-containing and organochlorine compounds, and the consumption of water with a high boron and bromine content has led to an increased incidence of illnesses of the digestive organs in children in Shadrinsk, Kurgan Oblast. In the settlement of Malaya Vishera (Novgorod Oblast) water containing more than five times the permitted level of aluminum has affected the central nervous and immune systems in children.

Insufficient intake of fluorine into the organism makes dental enamel more prone to dissolve causing damage to the teeth through caries. At present, owing to the low fluorine content in drinking water, about 60 percent of the Russian Federation's population is not receiving sufficient quantities of this microelement. In connection with this, the number of people suffering from caries remains at a high level and is showing no signs of falling. On the other hand, a high fluorine level in the water causes people to contract fluorosis, polyneuritis, osteosclerotic changes in the bones, and arterial hypertension.

It has been established that a heightened manganese content results in the development of anemia and disrupts the functioning of the central nervous system; a low level of manganese leads to a reduction in growth rate and a breakdown of lipid metabolism. A heightened level of strontium causes the demineralization of bones, retards the closure of infants' fontanels, and causes "strontium" rickets. Heightened levels of cadmium in drinking water result in the development of Itay-Itay [name as transliterated] disease, malignant tumors, higher levels of still births, bone damage, kidney damage, congenital disorders, and pregnancy and labor complications.

Assessing the quality of groundwater as a whole, it can be noted that pollution is local (point-source) in nature and, in the majority of cases, is restricted to the parameters of the pollution source. It is usually the inadequately protected aquifers immediately beneath the surface that are polluted. Major centralized water intakes that generally use artesian aquifers supply good-quality water to the population; pollution is recorded in very rare cases and is connected with unsatisfactory water protection activity—including poor-quality water intake borehole design.

As has been said, negative changes in the state of groundwater are brought about by man-made factors and often have critical environmental consequences. Modern warnings about such phenomena are possible if the laws of the flow of natural processes are taken into account, and if norms are laid down for economic activity in the utilization of natural resources. Obtaining the necessary information to resolve these tasks has required the creation of a standing service to regularly study the dynamics and to assess and predict the state of groundwater—in other words, a service to monitor groundwater as one of the most important components in the monitoring of the geological environment and of the environment as a whole. The service's tasks include the functions of informing the organs administering the subsoil resources fund and the utilization of nature as a whole, as well as the population, about the state of groundwater, along with the functions of

issuing recommendations to prevent or reduce and overcome negative consequences and economic damage which could be brought about by any particular condition of the groundwaters.

Its condition is formed under the influence of groundwater [as published], vegetation, atmospheric and climatic factors, just as groundwater largely determines the condition of the contiguous natural environments. This requires systematic interdisciplinary exchange of information and the comprehensive processing of that data on the basis of the state regulations governing information flows (the state military land survey, land monitoring, the unified state system of environmental monitoring, and so forth). Given these circumstances, and in connection with the very important role played by groundwater for drinking water supply and in the shaping of other conditions for people's vital activity, the monitoring of the geological environment and a most important aspect of it—ground water—should have the status of a state system, and the monitoring system should receive reliable state and municipal support.

One of the reasons for the unsatisfactory state of drinking water supply as a whole and of the utilization and protection of groundwater in particular is the lack of the necessary legislative base and, as a result, the lack of any payment for the utilization of water resources. The Russian Federation Water Code and the Russian Federation Law on the Supply of Drinking Water to the Population have still not been ratified, and a Law on the Protection of Groundwater has not been elaborated.

An analysis of the state of ground waters permits the following assessment of the prospects of their use for domestic and drinking water supplies.

The long-term requirement for domestic and drinking water supplies can be met in full (by more than 90 percent) by means of ground waters in 62 components of the Federation—Bashkiria [Bashkortostan], Buryatia, Mordvinia, Chuvashia, Altay Kray, Krasnoyarsk Kray, and Amur, Bryansk, Vladimir, Voronezh, Pskov, Ryazan, and other oblasts; be partially met (by 25-90 percent) in 15 components of the Federation—Dagestan, Udmurtia, Stavropol Kray, Khabarovsk Kray, and Volgograd, Ivanovo, Kemerovo, Kostroma, Chelyabinsk, and other oblasts; and be inadequately met in six components of the Federation—Kalmykia, Karelia, and Astrakhan, Kurgan, Murmansk, and Yaroslavl Oblasts.

As already pointed out, large cities are characterized by the most complex conditions for providing the population with fresh ground waters. From this aspect all cities with a population in excess of 250,000 may be divided into four groups.

The first includes cities provided with explored reserves of ground waters, some of which relate to aquifers reliably protected against pollution. This group includes both cities whose domestic and drinking water supply is entirely or primarily based on surface waters (Arkhangelsk, Ivanovo, Nizhniy Novgorod, Kirov, Makhachkala, Vladivostok) and cities whose present water supply is provided entirely or to a considerable degree by ground waters (Tver, Smolensk, Tambov, Krasnodar, Nalchik, Barnaul, and others).

The second group can include cities whose requirements are also fully met by ground waters, but the currently exploited or explored aquifers are insufficiently reliably protected against pollution. These are Tolyatti, Saratov, Sochi, Orenburg, Ufa, Krasnoyarsk, Angarsk, Bratsk, Ulan-Ude, Khabarovsk, and Kaliningrad. The organization of exploratory and prospecting work for highly protected aquifers, whose reserves can satisfy part of the need, is urgent for the aforesaid points.

The next group should include cities which at the present time entirely or partly meet the needs for water of drinking quality with reliably protected ground waters, but it is necessary to carry out exploratory and prospecting work in order to meet the long-term need (Bryansk, Vladimir, Kaluga, Orel, Belgorod, Ulyanovsk, Groznyy, Magnitogorsk, Kemerovo, Chita, Tomsk).

Finally, the last, largest group is made up of cities whose requirements for water for the domestic and drinking water supply can be met partially. These include major cities whose present water supply is entirely or almost entirely based on surface waters, such as Moscow, St. Petersburg, Yaroslavl, Yekaterinburg, Perm, Rostov-na-Donu, Astrakhan, Omsk, Novosibirsk, and others, as well as Saransk, Tyumen, and Tula. For all the cities belonging to this group, in addition to opening up the explored reserves, it is necessary to organize exploratory and prospecting work aimed both at ascertaining and exploring deposits whose reserves can satisfy a substantial part of the need and at ascertaining promising sectors for the construction of bottling plants. At the same time exploratory and prospecting work must encompass considerable areas.

In discussing the situation with regard to ground waters—extremely topical in the context of the requirements and the quality of the water which we drink—the participants in the Interdepartmental Commission session pointed out that water conservation measures in recent years have been financed at the level of 20 percent of what is needed. The Goskomsanepidnadzor has drawn up an economic mechanism based on paid water consumption, but its introduction is being held up by the absence of a legislative base.

The service for monitoring the state of ground waters and, primarily, their quality, requires substantial development and improvement. In connection with a higher degree of protection for ground waters against pollution the strategy for providing the population with drinking water must be aimed at making all possible use of ground waters to improve the reliability of domestic and drinking water supply systems.

With a view to increasing the volume of groundwater used to supply drinking water to the population, protecting it from pollution and depletion, and reducing the risk of

groundwater pollution for the health of the population, the Interdepartmental Commission considers it necessary:

1. For the Russian Federation Government to be asked to elaborate a state program for providing the Russian population with quality drinking water that is reliably protected against pollution.
2. For the Russian Federation Committee for Geology and the Use of Natural Resources to carry out work to assess the degree of provision of the Russian population with groundwater sources that are reliably protected against pollution.
3. For the Russian Federation Ministry of Civil Defense, Emergencies, and Natural Disasters in conjunction with the Russian Federation Committee for Geology and the Use of Natural Resources to assess the degree of provision of drinking waters for public water supply systems during emergency situations, and to elaborate a plan of measures to organize supplies of drinking water during such periods.
4. For the Russian Federation Committees for Water Resources and Geology and the Use of Natural Resources to take an inventory of utilized and unutilized groundwater deposits and of water intakes operating on unproved reserves, and to assess the possibility of developing explored but unutilized deposits.
5. For the Russian Federation State Committee for Sanitary and Epidemiological Supervision to conduct work to assess the arrangements for economic activity in zones subject to sanitary controls for existing groundwater intakes and to submit proposals to executive organs for improving the protection of groundwaters against pollution.
6. For a recommendation to be given to executive organs within Federation components to carry out the necessary exploratory and prospecting work for groundwaters in order to enhance the reliability of domestic and drinking water supply systems.
7. For the Russian Federation Committee for Geology and the Use of Natural Resources to draw up proposals for the Russian Federation Government to develop a system for monitoring groundwaters with a view to monitoring its condition as a source for the domestic and drinking water supply.
8. For the State Duma to be asked to expedite the examination and ratification of the Russian Federation Water Code and the Russian Federation Law on the Supply of Drinking Water to the Population, and to elaborate a Russian Federation Law "On the Protection of Groundwater."
9. For the Russian Federation Committees for Water Resources and for Geology and the Use of Natural Resources to elaborate normative documents for payments for the right to use water facilities.

First Shipment of Nuclear Fuel Waste Leaves Arkhangelsk

LD2405192694 Moscow Ostankino Television First Channel Network in Russian 1700 GMT 24 May 94

[Report by Yan Berling in Severomorsk; from the "Novosti" newscast]

[Text] The first trainload of the nuclear fuel waste has left the Sogagorka railway junction in Arkhangelsk at 0200 today. For almost three years now the nuclear reactor rods have been deposited at the SevMash [Severodvinsk Machine-building] enterprise in Severodvinsk at which redundant nuclear submarines are being dismantled. Nearly 40 submarines are waiting today for their nuclear fuel waste to be disposed.

For the past three years Severodvinsk has been under a threat of ecological catastrophe. A slightest error in handling nuclear fuel could lead to irreversible consequences. The volume of radioactive waste exceeded all accepted norms.

The reasons for this pileup was the fact that previously nuclear waste was shipped by sea to a place near Murmansk where it was loaded onto railway cars and transported to Chelyabinsk-65 for disposal. This was too expensive and the North Fleet command suggested the waste should be transported directly from Severodvinsk and Arkhangelsk. The State ecological expert commission was examining this proposal for several years, which resulted in a pileup of nuclear waste waiting to be transported.

Nevertheless, the first trainload has now been dispatched. The railway lines had to be repaired urgently for this occasion. The safety of the load was ensured by introduction of new specially designed containers. [Video shows train with special containers]

Environmental Ministry: No Threat From Sunken Nuclear Sub

LD2505164194 Moscow INTERFAX in English 1541 GMT 25 May 94

[Text] The Russian Ministry of Environmental Protection and Natural Resources once again confirmed that there is no emergency situation around the Komsomolets nuclear submarine which drowned in the Norwegian Sea in 1989.

At the same time, the ministry considers it possible to carry out works on encasing of the front section where two torpedoes with nuclear charges are located. Experts are particularly concerned about the possible escape of radioactive plutonium from these torpedoes. The torpedoes have been partially destroyed as a result of the ship going under and an explosion in the front section. The nuclear reactor was taken out of operation before the sinking and any negative effects on the environment is ruled out.

This was said at a press conference in Moscow on Wednesday, dedicated to Russian press reports about the allegedly critical situation around the submarine.

First Deputy Minister Aleksey Poryadin, referring to the conclusion of the state ecological investigation, noted that at the depth of 1,700 meters, where the submarine is lying,

fishing is not being carried out, therefore "a radioactive and ecological threat posed by the release of substances after plutonium decay of the nuclear explosives" does not exist. At the same time, experts of the ministry consider it necessary to constantly check the ecological situation in the region around Komsomolets before and after installment of localizing systems.

Poryadin pointed out that localization of the front section will be carried out with the purpose of preventing the release of radioactive substances, the probability of which, in his opinion, is very low. He said that the cost of the works had been estimated approximately, but it is too early to speak about a concrete sum.

Poryadin said, referring to the London Convention on prevention of water pollution from waste and other substances (1972), that "force-majeur circumstances to which the death of the submarine is related" exclude presenting claims to Russia from other countries.

Poryadin said that in three weeks a Russia expedition on board the Mstislav Keldysh ship will head for the place of the Komsomolets accident in order to control the radiation and ecological situation in the area.

According to the ministry, the expeditions in 1988, 1991-1993, did not find increased levels of plutonium in the water or on the sea's bottom.

Environmental Cooperation Pact Signed With Germany

94WN0274C Moscow ZELENNY MIR in Russian No 1, 1994 p 4

[ECO-PRESS report: "German-Russian Memorandum"]

[Text] The ministers of environmental protection of Russia and Germany—V.I. Danilov-Danilyan and K. Toepfer—signed in Bonn an agreement on cooperation in the collection, transfer, analysis, and evaluation of radiological data, and the creation in the Russian Federation of an integrated measuring-information system (IRIS). The two countries have been cooperating in this area since 1993, and this agreement provides a legal base and defines more precisely the parties' obligations, tasks, and functions.

The IRIS is intended for monitoring facilities that present a radioactive danger; a system of sensors measuring radiation level is set up on the territory adjacent to the facility (for an AES [nuclear power station]—within a radius of 30 km). The information they supply is transmitted via satellite to the Federal Radiological Control Center. The project is currently being implemented at the Smolensk AES, and then be extended to include the Kursk and Leningrad (Sosnovyy Bor) stations.

By this agreement, Germany installs technical equipment at these facilities, delivers standard computer programs and develops customized ones. The Russian side provides base and background data, sensor installation, and provides custom programming and satellite communications.

At the signing of the agreement Klaus Toepfer said: "Whether we like it or not, nuclear energy will remain a substantial source of power supply, especially in resource-poor East European countries. Therefore it falls upon Germany within the framework of broad-scale technical cooperation to make its contribution to these developments and thereby help to achieve everywhere the high level of safety that we have achieved in our own country."

Danilov-Danilyan on 'Ecological Rebirth' Program

94WN0274B Moscow ZELENYI MIR in Russian
No 1, 1994 p 1

[Unattributed report: "Russia's Choice Ecological Program: V.I. Danilov-Danilyan on Program of National Ecological Revival"]

[Text] The Russian minister of environmental protection and natural resources, who was elected to the State Duma by a federal list, said that there is "legal uncertainty" in the area of ecology. The minister emphasized that it is necessary to create as soon as possible "a legal base for environmental protection activities that will be in keeping with the new constitution." In his opinion, it should define the interaction between federal authorities and federation components with respect to natural resource utilization.

V.I. Danilov-Danilyan pointed out that the implementation of ecological policy requires tremendous capital investment and is only possible when the economy improves. Nevertheless, it is necessary to beef up the environmental protection system—in particular, ecological monitoring and expert evaluation. The minister reported that development of programs for ecological improvement of the regions has begun. For instance, in Tula Oblast.

According to the minister, in 1993 penalty payments by enterprises polluting the atmosphere may possibly amount to about 300 billion rubles. In his opinion it is not expedient to increase the penalty rates, because it reduces production efficiency and does not lead to an improved environment.

The minister refuted the rumor spread by the REUTER agency that Russia had allegedly dumped into the ocean "half a Chernobyl of radioactive waste." "In reality," he clarified, "the volume was smaller by two orders of magnitude."

Russia's Choice plans a national ecological revival, said V. Danilov-Danilyan, based on a considerable reduction in the human and industrial impact on the environment. In particular, bringing within the norm atmospheric discharges and waste water dumping by industrial and agricultural enterprises, and developing a "repair network" for ecosystems that have become out of balance.

Russia's Environmental Situation Almost Catastrophic

LD2605180294 Moscow INTERFAX in English
1339 GMT 26 May 94

[Text] More than half of the Russian citizens are exposed to harmful substances, whose concentration exceeds the admissible level by 5 to 10 times. The bacterial and viral contamination of the Russian rivers, including the Volga, the Don and the Ob, is tens and hundreds of times higher than the admissible level, Vice Rector of the newly-established Institute of Ecological Rehabilitation Studies Viktor Abdokhin told Interfax.

He said that over the past 10 years, the incidence of occupational diseases had more than doubled and that 55 out of every 10,000 workers became disabled every year.

Border Troops To Step Up Protection of Sea Borders

WS2705104094 Kaliningrad KALININGRADSKAYA
PRAVDA in Russian 19 May 94 p 3

[Report by O. Balandina: "Marine Inspection Will Be Intensified"]

[Excerpt] [passage omitted] The Border Troops are responsible people. So, in the same serious manner as they are equipping their new base, they have begun to perform their primary task—protection of our oblast's sea borders. They will be facing even more tasks beginning this spring. The Border Troops Kaliningrad Group commander and the Oblast Environment Protection Committee chairman have approved a plan for cooperation between the Border Troops marine group and the environment protection committee. I attended a joint meeting of the unit, at which 14 officers and warrant officers, who had gone through special training, received certificates from the Oblast Environment Committee as nonsalaried staff members. During the ceremony, Marine Inspection chief T.I. Gryn expressed her confidence that the engagement of the Border Troops staff and equipment will help to improve protection of the fish population, detain ships violating regulations, monitor sea pollution by oil, waste, and soil, as well as to constantly control extraction of amber, and in the future, also oil from platforms. Ships patrolling internal and territorial waters, the continental shelf, and the Russian Federation's economic zone, will either take on board Oblast Environment Committee inspectors, or they themselves will perform such duties, as nonsalaried staff members. Having discovered violations, they, as inspectors, will fill out protocols of detention.

The cooperation plan also envisions a permanent exchange of information on the situation in controlled regions and the location of foreign industrial or scientific-research vessels. The results of patrols and plans for future cooperation will be discussed every week at briefings with the participation of Marine Inspection representatives.

Undoubtedly, such close cooperation will significantly intensify control over protected waters, and will bring an end to illegal fishing by foreign vessels. The Border Troops have already begun to implement the cooperation plan.

Norwegian Study Finds Russia Not 'Big Environmental Threat'

PM2705113094 Stockholm SVENSKA DAGBLADET in Swedish 25 May 94 p 13

[Bjorn Lindahl report: "Swedish Air Environmental Villain in Russia"]

[Text] Oslo—Sweden causes more pollution in Russia than vice versa.

This is the surprising result arrived at by Norwegian meteorologists when they tried to measure air pollution which is spread across borders.

Russia receives three times as much sulfur dioxide and nitric oxide from Western Europe than it exports to the West.

In June the states of Europe will sign a protocol on sulfur emissions in Oslo. In the context of this meeting the Meteorological Institute has compiled figures for cross-border emissions which contradict the picture of Russia as the big environmental threat.

It is true that the country's industry is highly polluting, but because the wind mainly blows from the southwest to the northeast most of Russia's dirt lands in Russia.

If we look at the balance between Sweden and Russia 6,200 tonnes of sulfur and 16,400 tonnes of nitric oxide are transported from Sweden to Russia, while Russian pollution in Sweden amounts to 5,600 tonnes of sulfur and 1,300 tonnes of nitric oxide.

Sweden, Norway, and Finland are countries which because of their location receive relatively large quantities of pollutants from Russia.

If we look at the EU [European Union] countries they spew forth 118,000 tonnes of sulfur which land in Russia, while we receive only 600 tonnes of sulfur.

"The chaos in Russia means that the inhabitants there have lost their balance. As a result they are an easy target for a Western description of the environmental problems which is not particularly balanced. We should not paralyze Russia by simply concentrating on their environmental emissions," said Rune Castberg, a researcher at the Fridtjof Nansen Institute who has specialized in Russia.

He predicts that Russia will become much more aggressive on environmental issues too and will demand that the countries of Western Europe clean up their own backyards before criticizing Russia.

The sulfur protocol which environment ministers from 28 countries are to sign in Oslo on 13 June contains several new principles.

These include the notions that natural vulnerability must be taken as the foundation when it comes to regulating emissions and that countries must work together to a much greater extent to achieve the best results.

"The protocol makes it possible for a country like Norway, which to a large extent has only automobiles and ships as sources of nitric oxide emissions, to invest in purification plants on the Kola Peninsula instead.

"As a result an overall reduction in emissions can be achieved that is greater than would have been the case if similar amounts of money had been invested in a pool of environmentally sound automobiles which would after all only be replaced in time," Thorstein Dreyer, information chief at the Norwegian Environment Ministry, said.

Draft Concept of Russian Federation Environmental Security

94WN0267A Moscow ZELENYY MIR in Russian No 1, 1994 pp 6-9

["Draft Concept of Russian Federation Environmental Security"]

[Text] When the Russian Federation Ministry of Environmental Protection and Natural Resources began developing a draft "Concept of Russian Federation Environmental Security" in February 1992 it recruited the assistance of more than 50 scientists and specialists from the Russian Academy of Sciences, the Russian Academy of Medical Sciences and the science sections of the Ministry of Environmental Protection, the Russian Ministry of Health and other ministries. The project's scientific director was V. G. Gorelov, doctor of medical sciences and deputy chief of the Russian Ministry of Environmental Protection and Natural Resources Main Administration for Environmental Security.

When (on 8 February 1993) a draft version of this Concept was approved in its entirety by the ministry board, a recommendation was made by A. V. Yablokov, Russian presidential advisor for ecology and health care, that the draft Concept be sent to regional environmental protection agencies so that they could examine it, interpret it, discuss it and formulate their comments and suggestions...

The Main Administration for Environmental Security under the Russian Ministry of Environmental Protection and Natural Resources [Minprirody Rossii], taking the numerous comments into consideration, further edited the draft in the spring of last year and, as is customary, sent it out for consultation with regional environmental protection agencies and affected ministries and agencies. We should note that an absolute majority of the 46 responses (41 from environmental protection agencies and five from ministries and other agencies) received by the framers of the draft Concept expressed support for the main points in the Concept.

All comments and suggestions of a primarily editorial or clarifying nature were taken into consideration in the version of the draft Concept being published in ZELENYY MIR today under the heading "A Document—Let Us Discuss It..."

Do the Concept's authors agree with all the comments? No—they contested all comments that were purely directed toward a single department (the Russian State Committee for Sanitary-Epidemiological Oversight [Gossanepidnadzor Rossii] and the Russian Federation State Committee on

Civil Defense, Emergency Situations and Liquidation of the Consequences of Natural Disasters (GKChS Rossii). But compromises were reached on those points as well in the course of further editing.

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Introduction

This Concept reflects the official views of the Russian Ministry of Environmental Protection and Natural Resources (Minprirody Rossii) on current principles, methods and mechanisms for environmental protection

and efficient use of natural resources, which are an inalienable part of state policy with regard to our country's economic and social development.

The current scale of environmental changes is creating a real threat to the public's life and health. The necessity of compensating for losses due to major accidents and natural disasters will require that economic resources be shifted away from performing strategic tasks in connection with the formation of a new economic structure toward fruitless attempts to maintain the economy in its current state.

The greatest environmental threat is due to chemical factors, protection against which should be regarded as a priority objective. A faulty method of neutralizing emissions and discharges now predominates—i.e. their dispersion and dilution to "safe" levels, levels that were established without consideration for the possibility of secondary concentration of eco-toxins at points in the environment, or their transformation into more toxic compounds. Particularly dangerous are the super-toxins, pollution by which is increasingly rapidly. There is a tremendous environmental threat from radioactive contamination, and one that is rapidly increasing in proportion to the accumulation of radioactive waste from spent atomic reactors from nuclear power plants, submarines, nuclear-powered surface ships, etc. There is a great danger of changes in the biological balance, particularly the correlation between pathogenic and saprophytic microorganisms and undesirable mutations in them.

The speed with which the intensity of the adverse effects of external factors is increasing has surpassed limits on the speed of living systems' capability of biological adaptation to their environment. Destabilization of the environment is directly linked to a decline in public health. Russia ranks fifty-first in the world in terms of average life span, and its infant mortality rate is high. If these negative trends are not halted, then by the middle of the 21st century scarcity of food, water and oxygen, coupled with the genetic burden, will significantly accelerate the degeneration of populations and their gradual extinction.

The basis for the creation of an environmental security policy is the creation of an adequate organizational, legal and sociopolitical economic mechanism for the management of natural resource use that is based on modern quantitative data regarding the possibility of counteracting anthropogenic and naturally-occurring biosphere destruction.

In order to solve these urgent problems it is essential to formulate a general Concept of Russian Environmental Security and develop a methodology for its implementation.

1. General Principles

1.1. Fundamental Concepts and Definitions

The *environmental threat* is the probability of destruction of the human habitat and the plants and animals connected with it as a result of uncontrolled economic development, outdated technologies and anthropogenic accidents and disasters which result in disruption of living systems' adaptation to the conditions under which they exist.

Environmental security is the process of providing protection for the vitally important interests of the individual, society, nature and the state against actual or potential threats created by human or natural influence on the environment.

An *environmental security system* is the aggregate of legislative, technical, medical and biological measures aimed at supporting the balance between the biosphere and both anthropogenic and natural external burdens.

The *subjects of environmental security* are the individual, society, the biosphere and the state.

The *objects of environmental security* are the vitally important interests of the subjects of security—rights, the individual's physical and intellectual needs, natural resources and the natural environment—as the physical foundation of state and social development.

An *environmental security policy* is purposeful action by the state, public organizations and legal and physical persons to ensure environmental security.

Environmental risk is the probability of unfavorable effects on the environment as the results of any anthropogenic changes in natural sites or factors.

Maximum permissible environmental burden is the maximum level of effects by anthropogenic factors at which the functional integrity of ecosystems is maintained.

An *environmental emergency zone* is a section of territory where as a result of commercial or other activities there occur persistent negative changes in the environment, resulting in disruption of public health or disruption of the balance among natural ecosystems, in particular damage to the genetic stock of plants and animals.

An *environmental disaster area* is a section of territory where as a result of commercial or other activities and/or natural disasters irreversible changes have occurred in the environment, resulting in a rise in the rate of diseases and mortality among the population and destruction of biocenoses.

Health is a state of complete physical, mental and social well-being, not simply the absence of the incidence of disease or disability (World Health Organization).

1.2. Specific Economic and Social Features of Russia's Development

From the standpoint of environmental security one must delineate the following specific economic and social features of Russia's development:

- extensive development of the economy coupled with single-purpose use of natural resources, huge volumes of raw materials extraction and sales, the absence of a system for processing household and industrial wastes, and development of new agricultural land and abandonment of previous agricultural areas;
- a distorted economic structure with a prevalence of natural resource-intensive types of production that create a constant and excessive overload on ecosystems;
- a militarized economy;

- unreliable technical systems and inadequate training of personnel at enterprises with heightened environmental risk;
- outdated and ineffective environmental protection equipment at the final stages of technological processes;
- biological hazard—danger to human beings, produce and natural ecosystems as a result of activity by living organisms;
- increasing urban population and an increasing supply of goods and services in the state-owned and private sectors of the economy, resulting in greater consumption of natural resources;
- natural and anthropogenic accidents, disasters and catastrophes;
- transportation-related effects;
- a distorted system for assessing environmental benefit and environmental losses, resulting in unprofitable natural resource use;
- a lack of institutions and experience with environmental regulation of commercial activities;
- a lack of a well-designed national system for environmental education and training and cultivation of an environmental world view;
- a lack of unity in the state's administration of environmental security.

1.3. Laws, Principles and Regulations Pertaining to Biosphere Function

Laws

"Internal dynamic balance": the matter, energy, information and quality of individual natural systems and their hierarchy are interconnected to such an extent that any change in one of those indices causes accompanying functional-structural qualitative and quantitative changes, maintaining the total amount of matter and energy and the informational and dynamic qualities of systems and their hierarchies.

"All or nothing" (Kh. Boumech [sp?]): weak influences may not cause reciprocal reactions in natural systems until such time as they accumulate and result in the development of a turbulent, dynamic process.

"The minimum" (Yu. Libikh): opportunities for life are delimited by environmental factors, the number and quality of which is close to the required minimum for an organism or an ecosystem, and further reduction thereof will result in the death of the organism or destruction of the ecosystem.

"Evolutionary and environmental irreversibility": an ecosystem that has lost part of its elements cannot return to its original state.

"The irreplaceability of the biosphere" (V. G. Gorshkov): reduction of the natural biota in an amount exceeding a threshold level deprives the environment of stability that cannot be restored through the use of treatment facilities or a transition to no-waste production.

Principles

The Le Shatellier-Braun Principle: in the event of an external influence that brings a system out of stable balance, the balance shifts in the direction in which the external influence becomes weaker.

Remoteness of events: a phenomenon that is distant in time or space appears less significant. In the field of natural resource use this principle is especially frequently the basis for incorrect practical measures.

Sudden intensification of pathogenicity: unexpected intensification of pathogenicity occurs upon mutation of a disease-producing organism, upon introduction of a new disease-producing organism into an ecosystem which has no mechanisms to regulate its numbers, or upon a very sharp change in the ecosystem's environment.

Reasonable sufficiency and acceptability of risk: expansion of any human activities should not result in socioeconomic or environmental disasters.

Rules

Mutual adaptation (K. Mebius and G. F. Morozov): species in a biocenosis are adapted to each other to such an extent that their community constitutes an internally contradictory yet unified and interconnected systemic whole.

Integral resource: competition between economic sectors with regard to the use of specific natural systems is inevitable, and they harm each other more in proportion to how significantly they change their jointly exploited environmental component or the entire ecosystem.

Measures of natural system transformation: in the course of utilizing natural systems there are certain bounds that must not be overstepped if those systems are to maintain their self-supporting capacity (self-organization and self-regulation).

Correspondence between environmental conditions and an organism's genetic predisposition: a species of an organism can exist only so long as the natural environment surrounding it is in line with that species' genetic adaptation capacity relative to the environment's variations and changes.

Chain reactions from "strict" management of nature: "strict" and, as a rule, technical management of natural processes is fraught with the possibility of chain reactions, a significant portion of which will prove environmentally, socially and economically unacceptable.

1.4. Fundamental Principles of Ensuring Environmental Security

The fundamental principles of ensuring environmental security consist of the following:

—social and economic development of society in the course of which people are ensured an improving quality of life coupled with a reduction in or stabilization of negative effects on the natural environment, and in which the laws of development for the biosphere and natural climate zones are observed;

—compliance with permissible levels of effects on the natural environment and on human beings as established by the state and the components of the Federation;

—non-depleting natural resource use in which the resource supply satisfies the interests of current and future generations equally;

—the obligation to compensate for damage done to the health of human beings and nature, and mutual responsibility of territorial administrative units for the state of the environment and cross-border transfer of pollutants;

—timely identification and restoration of disrupted territories (or bodies of water), ecosystems and natural complexes;

—preservation of biological diversity;

—the applicability of international law and compliance with bilateral and multilateral treaties regulating natural resource use and quality of life.

1.5. Goals of the Concept of Environmental Security

The goals of this Concept are:

—development of conceptual foundations for an overall strategy in the field of environmental protection and efficient use of natural resources for the purpose of our country's sustainable economic and social development;

—definition of achievable mid-range and long-range goals and tasks in the field of environmental protection;

—definition of the structure and tasks of and mutual relations between components of the system for Russia's ensuring environmental security;

—identification of specific goals and tasks involved in the planning of policy and programs that must be adopted and carried out by the Government and regional administrative bodies.

2. Environmental Problems and Trends

The current state of the environment attests to the fact that environmental problems are due to two basic factors: wasteful natural resource use, which reduces the biosphere's productivity, and pollution, which threatens all living things and in particular human health and well-being. It would be appropriate to consider critical environmental problems within the framework of the following sections: the atmosphere, inland surface and underground waters and seas, soil protection and land use, forests, wilderness and genetic resources, wastes and toxic chemicals, social factors, energy, industry and transportation.

2.1. The Atmosphere

The principle pollutants in the air and precipitation are sulfur oxides, nitrogen, carbon, airborne organic substances, suspended particles, bonded heavy metals and organic compounds. These all have an adverse cumulative effect on human health, animals and plants.

Also alarming are pollutants such as chlorofluorocarbons, halogens, and nitrogen and carbon oxides, which alter the distribution and concentration of ozone, affect the thermal balance and change climate.

Environmental problems connected with the cross-border transfer of atmospheric pollutants over great distances are acute.

2.2. Inland Waters and Seas

The priority environmental problems in the field of water protection are:

- diversion of water from a number of river basins and underground sources in excess of environmentally permissible levels;
- depletion of small rivers;
- large water losses as a result of water system disrepair and imperfect technological processes;
- discharge of polluted waste water into bodies of water;
- cross-border water pollution.

The greatest contribution to surface water pollution comes from enterprises in the ferrous and non-ferrous metals, chemical, petrochemical, oil, gas, coal, timber and paper industries, as well as agricultural enterprises and municipal services enterprises.

Russia's sea basins are being polluted by petroleum products, phenols, copper, zinc and chrome compounds and chloro-organic pesticides, with a trend toward increasing levels of pollution.

2.3. Soil Protection and Land Use

The following types of pollution and soil degradation are most widespread in various regions:

- planar and channel erosion;
- gully erosion;
- accumulation or depletion of specific chemical elements;
- rise or fall in underground water level;
- salination;
- solonchization;
- loss of organic substances and humus;
- loss of nutritive elements and increasing soil acidity;
- accumulation of toxic substances; etc.

Large-scale use of fertilizers, herbicides and pesticides has resulted in contamination of surface waters and alteration of aquatic ecosystems.

As a result of erosion processes, the spread of excessively wet, salinated or swampy land, and overgrowth by forests and shrubs there has been a decrease in the extent of arable land.

Soils for a distance of several tens of kilometers around cities and industrial centers are contaminated by petroleum products, heavy metals and toxic organic substances.

Large sections of land have been removed from agricultural use by development of oil, gas and coal fields, iron ore deposits and other minerals. The mining industry is one of the largest sources of environmental degradation and pollution.

2.4. Forests

Degradation of forests results from gaseous air pollutants, precipitation of acidic components and heavy metals, changes in climatic conditions, etc.

As a result of intensive commercial activity and losses due to forest fires, stands of mature timber are declining in evergreen forests in the European part of Russia. Forests are protected against fires on just 65 percent of Russia's total forest area.

Deforestation creates environmental problems such as rapid sedimentation of bodies of water, soil erosion, reduction in water supply, etc.

2.5. Biological Diversity

The present state of the environment permits one to define the principal negative phenomena in the environmental life cycle as:

- decreasing biological diversity;
- smaller populations of a number of species;
- accelerated aging of populations;
- disappearance of individual species from biocenoses;
- impoverishment of flora and fauna, particularly in areas with a high concentration of industry and population.

2.6. Wastes

Russia currently has more than 50 billion metric tons of wastes stored on an area of 250,000 hectares. A significant portion of this waste is classified as toxic substances of industrial origin. Russia lacks appropriate environmental standards for enterprises with regard to the neutralization and storage of toxic industrial waste.

Approximately four billion curies of radioactive waste have accumulated in special containers, uncovered pools, other bodies of water and near-surface burial sites.

Each year more than 130 million metric tons of solid household waste is created and transported to dumps and landfills. Industrial and household wastes place a major burden on aquatic and terrestrial ecosystems and present a serious threat to the health of human beings and the environment.

2.7. Energy, Industry and Transportation

Approximately 25 percent of all substances that pollute the air in Russia enter the environment as a result of the combustion of fuel in power-producing, heating and industrial boilers.

The degree of environmental pollution in areas where heavy industry is concentrated is horrifying.

Motor vehicle exhaust fumes pollute the air with hydrocarbons, lead and oxides of sulfur, nitrogen and carbon, and also contribute to acid rain.

2.8. Social Factors

The social environment may be envisioned as being comprised of subsystems such as demography, economics, education, social structure and culture, as well as dependent factors—stresses on human beings.

In this period of economic transition to a market economy the following events have become critical:

- loss of our country's intellectual potential due to emigration by scientists and specialists;
- changes in nutrition;
- a decline in the birthrate;
- lack of access to medical care among certain segments of the population;
- vocational reorientation;
- inaccessibility of recreational sites due to their high cost;
- a state of heightened personal and social stress.

3. A System of Long-Range Goals

The following may be defined as strategic goals:

- creation of an environment favorable to human health;
- assurance of rational, non-depleting natural resource use, biosphere balance, preservation of the genetic stock as well as species and landscape diversity, and balance between the processes of reproduction and utilization of renewable natural resources.

3.1. Priority Goals

3.1.1. Improvement of Air Quality

Development and implementation of a federal-regional Clean Air for Russia Program

Further development of a system to monitor air pollution in cities and other population centers

Development and application of models for calculating long-distance cross-border transfer of sulfur, nitrogen and carbon compounds, oxidants, organic compounds and heavy metal compounds

Improvement in the technological level of chemical, petrochemical and oil refining facilities for the purpose of reducing episodic emissions of toxic products into the atmosphere

Reduction of acid precipitation in order to prevent increases in the acidity of internal waters, forests and soils

Reduction of transportation-generated air pollution

Assessment of the effects of air pollution on public health

Development of norms and standards for emissions into the atmosphere

3.1.2. Efficient Use of Water Resources and Improvement of Water Quality

Development and implementation of the "Clean Water for Russia" and "Small Rivers of Russia" programs

Monitoring of water quality and comprehensive assessment of the condition of our country's water resources

Reduction in discharges of toxic substances into bodies of water; reduction in eutrophication and acidification

Development of comprehensive approaches to water diversion, water distribution and water treatment, utilization and discharge

Development and implementation of measures designed to protect underground waters from pollution

Implementation of international programs on the efficient use of cross-border rivers and international lakes

Development and implementation of programs for the development of water resources in connection with dam and canal construction and energy production

Development of norms and standards relative to water resources and water quality

3.1.3. Efforts To Fight Pollution of Seas and the Coastal Marine Environment

Establishment of a network to monitor and protect the marine environment

Reduction in the amount of pollutants entering seas and the coastal marine environment from land and shipboard

Regulation of discharges of substances (dumping) into seas

Cessation of burial of hazardous wastes into the sea

Guarantees of security during international transport of toxic chemicals

Reduction of cross-border marine pollution

Development of norms and standards pertaining to protection of seas and coastal zones

3.1.4. Protection of Soils and Efficient Land Use

Monitoring of soil cover and land resources; assessment of soil degradation and farmland loss

Development and application of effective methods of conserving and utilizing land and soils

Development and application of methods of soil and land restoration

Reduction in soil pollution by toxic chemicals, including heavy metals and pesticides

Development and implementation of methods of preventing erosion, soil degradation and loss of soil fertility

Development and introduction of environmentally acceptable methods of using fertilizers, pesticides and biological means and methods of combatting pests

Implementation of the principles contained in the "World Soil Strategy" and the "World Soil Charter" in Russia

Development of norms and standards for efficient land use.

3.1.5. Improvement of Forestry

Monitoring of forest resources and assessment of their condition and trends

Efficient forest restoration, with support for and expansion of forest-protecting plantings

Development and implementation of methods of protecting forests from diseases and widespread proliferation of pests

Protection of forests against fires

Development of norms and standards pertaining to forestry

3.1.6. Preservation of Biological Diversity

Monitoring of change in habitats and disappearances of individual species, as well as of the state of natural ecosystems and complexes

Assessment and preservation of genetic resources of flora and fauna

Development and introduction of methods and means designed to preserve flora and fauna and their habitats

Restoration of natural complexes and ecosystems in industrial and agricultural regions

Expansion of protected zones and areas

3.1.7. Hazardous Waste Management

Monitoring of hazardous industrial, agricultural and household wastes

Development and introduction of methods and means of limiting the dispersal of hazardous chemicals from wastes into the environment

Development of methods, technologies and means of eliminating hazardous waste

Development of technologies and methods for neutralizing and utilizing hazardous waste and other waste as raw material for manufacturing

Development and implementation of requirements pertaining to low-waste and no-waste technologies and waste re-circulation in industry

Studies on the effects of the hazardous chemicals found in waste on the environment and human health

Development of norms and standards with regard to hazardous waste

3.1.8. Overall Systematic Strategy for the Development of Industry, Energy Production and Transportation

Development of methods of conserving energy and making the transition to new or renewable energy sources

Reduction of sulfur and nitrogen compound emissions from heat-and-electric-power stations

Development of criteria and norms with regard to the planning and siting of nuclear power plants and the safe disposal of radioactive waste.

Assistance in complying with the "Declaration on Low-Waste and No-Waste Technologies"

Definition of environmental criteria that should be applied during development of national and regional transportation development plans

Pursuit of a policy of rational siting of transportation facilities and encouragement of broader use of environmentally safe types of transportation

3.1.9. Measures in the Social Realm

Influence on optimization of demographic factors

Establishment of a system of universal comprehensive and ongoing environmental education and training

Influence on the formation of the social structure through establishment of a separate item in the Russian Federation budget for "Environmental Protection"

Regulation of factors connected with employment (security equipment, preventive medical examinations, etc.) in order to protect public health

Development of criteria and methods for assessing processes of social adaptation to changing environmental conditions

3.2. Long-Range Goals

Development and implementation of a national program to bring about resource conservation through comprehensive utilization of raw materials, thorough processing of industrial and consumer wastes, and replacement of current technologies with ones that conserve resources

Guarantees of a dynamic balance between environmental quality, efficient use of natural resources and our country's sustainable socioeconomic development

Development of environmental requirements, standards and indices; a marked reduction in emissions of sulfur, nitrogen and carbon oxides and various other specific pollutants from all sources, with consideration for critical ecosystem burdens as defined at the international level

Reduction of atmospheric emissions which result in depletion of the ozone layer and affect the thermal balance

Preservation of biological and genetic resources and species and landscape diversity

Preservation and improvement of the quality of surface and underground water, and prevention of pollution of seas and the coastal marine environment

Realization of environmentally-based natural resource utilization

Correlation of the national environmental security system with international standards and regulations in the field of environmental protection and efficient natural resource use

Guarantees of an environmentally-based quality of human life

4. The Russian Environmental Security System (RosSEB)

4.1. Goals and Tasks

The components required for compliance with environmental security requirements are guarantees of chemical, radiation, biological and industrial safety throughout Russia.

Involved in the implementation of measures designed to achieve, maintain and monitor compliance with environmental security requirements are various Russia ministries, agencies, institutions and organizations. A real effect from such measures can be achieved only if they are applied in a comprehensive manner, which in turn will require the application of a clearly-defined mechanism for organizational management of all participants in this process. A Russian Environmental Security System (RosSEB) [Rossiyskaya sistema ekologicheskoy bezopasnosti] will have to be established to provide that mechanism.

RosSEB's principal tasks will be:

- organizational management of the process of achieving target indices of environmental security throughout all of Russia and in its individual territorial administrative units;
- organization and implementation of monitoring of compliance with environmental security requirements;
- interaction with other state systems working to support the life of society and the public, in particular with the Russian Council on Emergency Situations;
- prevention and elimination of the environmental effects of industrial and natural accidents and disasters;
- prevention of the emergence of environmental problem and disaster zones or environmental emergencies, as well as participation in the organization of efforts to eliminate their effects when they do emerge;
- assessment of the state of environmental security in Russia, and projection of its dynamics;
- provision of a unified state policy that will formulate guarantees for the reliable existence and sustainable development of the objects of environmental security;
- planning and coordination of compliance with comprehensive programs for environmental protection and efficient natural resource use;
- creation, development and equipping of personnel and means for ensuring environmental security in Russia;
- coordination of international agreements on ways to ensure Russia's environmental security.

4.2. RosSEB Structure

RosSEB will consist of macrosystem administrative bodies, personnel and equipment which will support systems and perform the tasks assigned to RosSEB, as well as means of information support for the decision-making process. All these elements of the macrosystem should be interconnected in a single system for information transfer and command-and-administrative actions.

Establishment of the RosSEB should occur on principles of organizational unification of the individual functional elements and structures which currently exist within ministries and agencies for the purpose of resolving individual environmental security issues.

The principal organizational support mechanisms should be:

- directed state programs in the field of environmental security;
- unified environmental security requirements;
- unified targeted indices of environmental security and unified regulations and procedures for achieving them;
- unified state monitoring of compliance with environmental security requirements and compliance with target indices;
- information interaction in support of organizational management. Performance of these functions should be assigned to the state administrative agency that is responsible for implementation of policy in the field of environmental security, i.e. the Russian Ministry of Environmental Protection and Natural Resources (see chart).

The functional subsystems of environmental security administration include:

- a subsystem for regional administration of environmental security;
- a subsystem for administration of the environmental security of potentially hazardous sites;
- a subsystem for management of industrially-produced and other environmentally hazardous and toxic wastes;
- a subsystem for nuclear and radiation security;
- a subsystem for recovery from the effects of environmental emergencies;
- a subsystem for management of environmental security in connection with military activities (with the exception of a special period);
- a subsystem for management of the state of public health;
- a state monitoring system (environmental monitoring, industrial monitoring, etc.).

The state monitoring system:

environmental monitoring (EGSM [Unified State Monitoring System], EGASKRO [expansion unclear]);

medical and biological monitoring (the AIS "Zdorovye" [Health Analysis and Information System], etc.);

monitoring of industrial, energy-related and transportation facilities;

monitoring of nuclear power facilities;

monitoring of potentially hazardous sites;

monitoring of sites where hazardous chemical, radioactive or biological wastes and substances are stored or buried;

monitoring of production- and consumption-related wastes;

monitoring of shipments of hazardous substances and materials;

monitoring of hazardous natural phenomena;

Monitoring of global natural phenomena and processes;

monitoring of agricultural production;

monitoring of soils and land.

The federal information and analysis system:

the information and analysis system (IAS) for environmental security under the Russian Ministry of Environmental Protection and Natural Resources;

territorial (regional) information and analysis systems under the Russian Ministry of Environmental Protection and Natural Resources;

the Russian Federal Mining and Industrial Oversight [Gosortekhnadzor] IAS;

the Russian Federal Oversight of Nuclear and Radiation Safety [Gosatomnadzor] IAS;

the Russian State Committee for Sanitary-Epidemiological Oversight [Gossanepidnadzor] and Ministry of Health IAS;

the Russian Federal Service for Hydrometeorology and Environmental Control [Rosgidromet] IAS.

The Environmental Security Automated Information and Control System [AIUS "Ekologicheskaya bezopasnost"]:

a consultation and administration system under the Russian Ministry of Environmental Protection and Natural Resources (the Ministry's central apparatus);

a consultation and administration system under regional agencies of the Russian Ministry of Environmental Protection (the Ministry's regional committees);

administrative systems under the Russian State Committee for Emergency Situations, Federal Mining and Industrial Oversight, Federal Oversight of Nuclear and Radiation Safety, the State Committee for Sanitary-Epidemiological Oversight, the Russian Ministry of Health, the Russian Ministry of Foreign Affairs and the Russian Federal Service for Hydrometeorology and Environmental Control.

The means of achieving environmental security are:

a normative legal foundation;

environmental programs;

state environmental monitoring;

licensing of activities;

environmental impact assessment;

regulations and standards;

environmental education and training;

international cooperation.

The personnel that will ensure environmental security are:

subordinate divisions of environmental assessment and inspection agencies;

Russian Ministry of Environmental Protection emergency environmental aid personnel;

subordinate divisions of the Russian Ministry of Defense, the Russian Ministry of Internal Affairs and the Russian Ministry of Security;

subordinate divisions of the Russian State Committee for Emergency Situations, including Civil Defense units;

medical services;

services for the protection of plant and animal life;

subordinate divisions of the Russian Ministry of Transportation, the Russian Ministry of Railways, and other specialized units and divisions which carry out measures and actions to protect the public and the natural environment.

The objects of administration are the ministries and agencies which carry out state administration of environmentally harmful and hazardous types of activities, in particular the Russian Ministry of Atomic Energy, Ministry of Fuel and Energy, Ministry of Industry, Ministry of Transportation, Ministry of Railways, Ministry of Agriculture and State Committee for Architecture and Construction.

5. The Mechanism for Ensuring Russia's Environmental Security

The mechanisms for achieving this goal are:

—a legislative and normative legal basis for activities in the field of environmental security;

—an organizational basis for administration of efforts with regard to ensuring environmental security;

—economic mechanisms;

—a technological basis for environmentally safe development of industry, energy production and transportation;

—state monitoring of activities by ministries and agencies in the field of compliance with environmental security requirements as they go about implementing Russia's state environmental policy;

—use of scientific-technical and production potential in the defense sectors of industry.

6. Conditions Essential for the Implementation of Environmental Security Strategy

Environmental security must become an inseparable part of efforts by the state and its organs in the field of ensuring the overall security of society and the state.

Environmental protection efforts must become one of the most important functions of the legislative, executive and judicial branches of government.

Environmental protection is based on integration of environmental, economic and social policy.

Economic development is based on development of low-waste and no-waste technologies and minimizing of the social and environmental cost of economic activity.

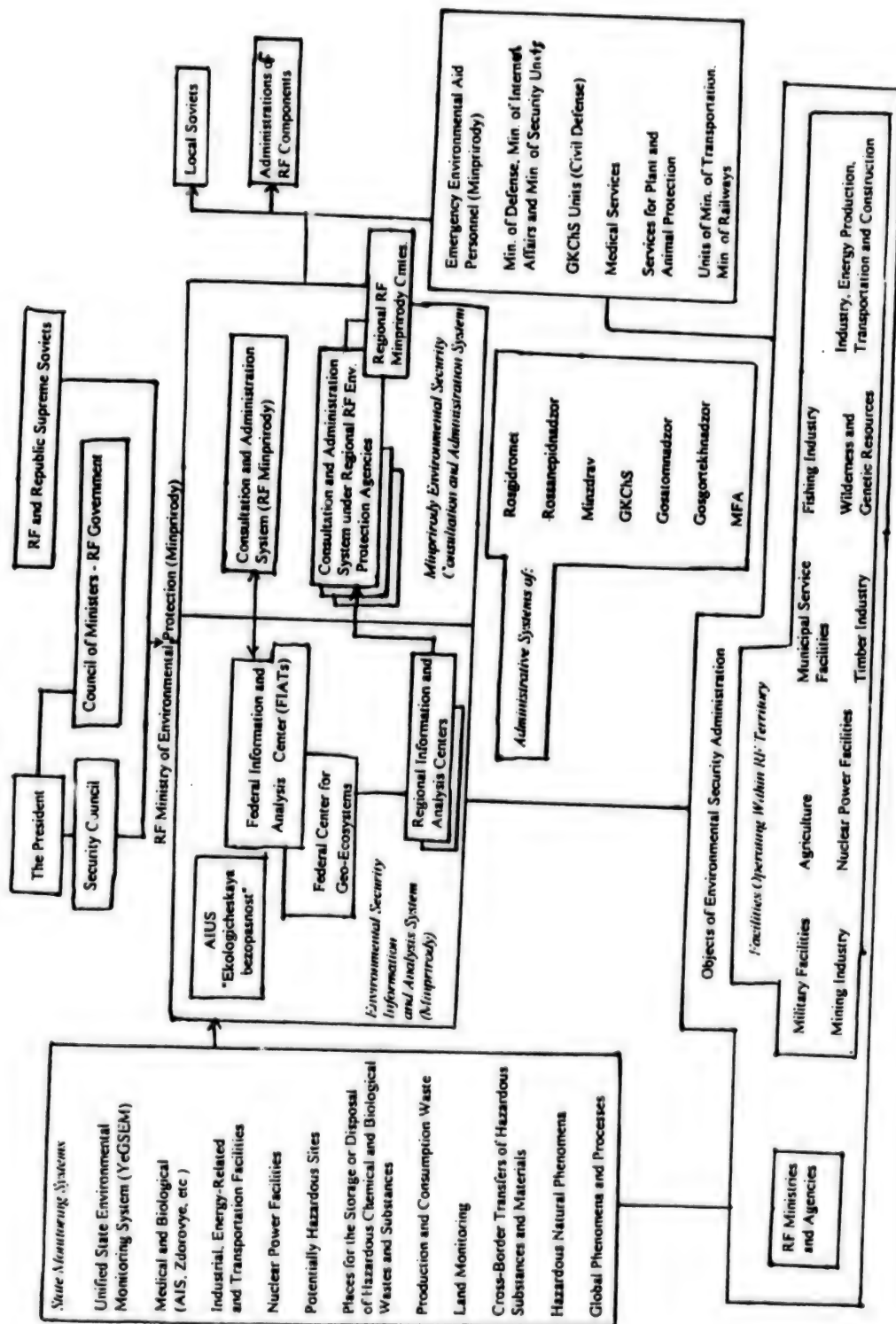
There must be active participation in compliance with international conventions on the environment.

Current and pending Russian Federation legislation regarding environmental protection and the rational use of natural resources as well as the Statute on the Russian Ministry of Environmental Protection and Natural Resources are to be based on this Concept.

Materials from annual Russian Federation state reports on the state of the environment, the United Nations Environmental Program (UNEP) and materials from the International Labor Organization, UNESCO, the European Economic Community and the Organization for Economic Cooperation and Development were used in the preparation of this Concept.

Individual environmental security concepts submitted to the Russian Ministry of Environmental Protection and Natural Resources by scientists from various institutions were also analyzed.

Russian Federation Environmental Security System



BELARUS

CIS Environment Chief Reviews Belarus Environmental Policy*94WN0284A Moscow SPASENIYE in Russian
No 8, Mar 94 p 1*

[Interview with A. M. Dorofeyev, chairman of Belarus State Ecological Committee, by A. Larin; place and date not given: "A Man of Action. If I Survive Until My Pension"]

[Text] Look at the photograph. It shows the transfer of power of the chairman of the CIS Interstate Ecological Council (MES). Timofey Fomich Yanchuk, MES executive secretary is on the left. Askhad Sharipovich Khabibulayev, chairman of the Uzbekistan State Committee on Nature is on the right. Anatoliy Maksimovich Dorofeyev, chairman of the Belarus State Ecological Committee is shown in the middle. Presently the coordination of environmental preservation work in his native post-Soviet space is concentrated specifically in his hands. It is a complicated global task. In addition to that it is painstaking and intensive work in Belarus itself. Anatoliy Maksimovich has already been occupying this post for 3.5 years. Before that he did scientific work (an ornithologist by profession), taught and occupied the post of protector at the Vitebsk Pedagogical Institute. According to Anatoliy Maksimovich himself it is very difficult for a person with his background to become an administrator. In my opinion, however, the Belarus State Ecological Committee was very fortunate with regard to its chairman. In his leisure time Anatoliy Maksimovich conducts ecological and regional studies and loves museums. Among the ones he visits most frequently are the Moscow State University Zoological Museum and the zoological museum on Vasilyev Island in St. Petersburg. It is remarkable when environmental protection work is managed by a person who loves and appreciates nature not only during working hours or because of the post he occupies.

Larin: Tell us please about the basics of the environmental protection strategy of the Republic of Belarus.

Dorofeyev: I am impressed with the viewpoint held by Albert Gora to the effect that the entire economy should be "green." It is clear, however, that this is something that will be possible only in the distant future. Meantime, while we are shifting to a market economy what is most important is introduction of an economic mechanism for the protection of the environment. In many respects it has already been implemented. A law on the ecological tax was introduced back in November 1991. The nonbudgetary environmental protection fund was restored (60 percent of it remains at the rayon level, 30 percent goes to the oblast, and 10 percent to the republic). Laws concerning protection of the environment and a commission of ecological experts have been adopted. They were received quite well by the specialists. The law on industrial and consumption waste was adopted quite recently, in November 1993, the law on specially protected natural territories was adopted in its first reading.

Larin: As far as I know there is no law on waste anywhere in the CIS.

Dorofeyev: Probably not. All of us hastened to rewrite it. That is the usual practice in relations. Whoever does it first,

he will share with all. The law on protection and rational utilization of the animal and vegetable world was worked out in detail. It was highly praised at the Institute of Environmental Protection in Frankfurt on the Main. On the whole it is planned to adopt 16 laws in the sphere of protection and utilization of natural resources. Many would like to see strict maximalist laws. But as long as we live in a transitional period, the laws will also be of a transitional nature.

Larin: Anatoliy Maksimovich, one of the most painful issues concerns finances.

Dorofeyev: I cannot shout "Hurrah!" for the financing that we receive. Some 1.5 percent of the budget goes for ecology plus a certain part of all capital investments. The total amounts to 2.5 percent. I am pleased with the tendency toward an increase in expenditures on ecology. Even though thus far there is no improvement in the situation and we have no right to expect one in the next two to three years.

Larin: How are your relations with the ecological press?

Dorofeyev: We have kept the magazine RODNAYA PRIRODA afloat. All of its founders abandoned it. But we carried it out on our shoulders. The newspapers EKOLOGIYA MINSKA and EKOLOGICHESKIY VESTNIK published in Gomel, also appear in the republic. We are planning the publication of an applied science magazine on environmental protection.

Larin: Recently our newspaper informed me that a second "green" party, in addition to the Ecological Union, appeared in Belarus. What kind of relations do you have with it?

Dorofeyev: I have had no discussions with the second "green" party. The Ecological Union has a more practical tilt to it. They do not substitute political posturing for actual work. They are more concrete, which I like. The development of the "green" party can take place only around that pivotal point.

Larin: At present there is a lot of talk about the forthcoming unification of the monetary systems of Russia and Belarus. What is your opinion on this?

Dorofeyev: Unification of monetary systems does not mean unification of the economies. I like cooperation with the Russian Federation at an international level, in part, within the MES framework. The value of our ecological alliance with Russia lies in the possibility of utilizing the intellectual and economic potential of each other.

Larin: How are your relations with the Ministry of Nature of Russia developing?

Dorofeyev: I worked when Vorontsov was there and know many people. The relations that formed are unselfish in many regards. Viktor Ivanovich Danilov-Danilyan sometimes offers intellectual help by sending his specialists which we do not have. At the next MES session, which will take place in Moscow in May, I will be transferring the chairmanship over to him.

Larin: After the election of Mechislav Ivanovich Grib as chairman of the Supreme Council, a number of my colleagues have been criticizing him with considerable delight. Does he deserve that?

Dorofeyev: No. I can say that Mechislav Ivanovich is a person who is very decisive with a good grasp of the situation which has formed in the republic. I have known him for a long time since Vitebsk, but not closely. It is necessary to give him his due. He is a good jurist, a skilled legal expert, and he will not permit any deviations from the law. Something else. He is having to work in a very difficult time.

Larin: Are you referring to Vitebsk?

Dorofeyev: Yes. I have gone through practically all of the literature on the history of Vitebsk area. I love to visit the homeland of the father of Belarus literature Jan Borshevskiy. If I survive until my pension I must write a book about the history of the native area, its nature.

Larin: Anatoliy Maksimovich, our issue will appear by 8 March.

Dorofeyev: I would like for our ecological movement to do everything possible in order to promote the health of women. Nature is vital to life. In protecting it we will improve the life of all women in Russia and Belarus.

Rumors About Heightened Radiation Level Refuted

*WS2505125794 Minsk Radio Minsk Network
in Belarusian 1000 GMT 25 May 94*

[Text] Alarming rumors are spreading throughout the Crepublic faster than radiation. Namely, radiation is the reason for civil unrest. Therefore, our correspondent Anatol Awcharenka has phoned the Halowhydramet [State Hydrometeorological Committee]. [begin recording]

Awcharenka: Good day, Ivan Ivanavich [Matveyenka]! The Studio of Information Programs of the republican radio has resolved to address you to get the most competent information, since you are the head of the Republican Center for Radiation Control and Environmental Monitoring. The point is that our studio has received hundreds of telephone calls this morning—perhaps, you have received them, too—asking what has happened at the Ignalina Nuclear Power Plant. Is there some emergency situation?

Matveyenka, in Russian: We also have received such calls. The Halowhydramet is monitoring the radiation level continually throughout the entire territory of the Republic. Measurements of the gamma irradiation rate are being taken at 53 control points everyday. In the 100-kilometer zone of the nuclear power stations, located on the territory of Belarus, measurements are being taken every three hours. There are no changes in the radiation level in the entire Republic.

Awcharenka: Have you phoned the Ignalina Nuclear Power Plant?

Matveyenka: We phoned the Ignalina plant as early as yesterday. The radiation level around the nuclear plant is normal. The nuclear plant has not been in operation for about a month now. However, civil unrest has apparently risen due to the fact that the Staff of Civilian Defense...

Awcharenka, interrupting: Republican Staff?

Matveyenka:... the Oblast Staff of the Civilian Defense conducted exercises in Myadel Rayon and has determined in exercise conditions [dal vvodnyye] that the radiation level at Naroch [river] is above normal.

Awcharenka: And hence the panic among our population?

Matveyenka: Yes, well, the Staff of Civilian Defense perfected the actions of these organizations for iodine preventative treatment [pauses]... the actions of those bodies concerned with these questions. Therefore, such a panic arouse. Such a panic, an alarm, arises frequently. However, fortunately, all this does not correspond to the existing rumors.

Awcharenka: Apparently, Ivan Ivanavich, this has happened because these exercises were not planned [pauses]...

Matveyenka: Absolutely right. These exercises were not planned. However, they cannot be planned beforehand. If all these exercises are announced beforehand, then they will not be exercises. Therefore, all these questions [pauses]... apparently, the radio should give information about the holding of such exercises, in all the services.

Awcharenka: Ivan Ivanavich, we have been informed by our listeners, who phoned in the morning, that children are not allowed to go to kindergartens, that schools changed their schedules—the school summer holidays will begin earlier. What can you say about that?

Matveyenka: I want to [word indistinct] assure them that the radiation level is normal in the entire territory of the Republic. I have information before me on the computer that at 0900 [0600 GMT] this morning there were 14 microroentgens per hour in Minsk...

Awcharenka, interrupting: Let us review the norm.

Matveyenka: Naturally. Before the Chernobyl events, the gamma irradiation rate on the territory was 10-20 (?microroentgens) per hour. Therefore, everything is within the normal limits. And, throughout the territory of Belarus, I can read [pauses]... in the region of Braslav—11 microroentgens, in Slutsk—16 microroentgens, in Marina Gorka—11 microroentgen. Everything is within the normal limits.

Awcharenka: Thank you for such competent information. I will remind our listeners that we have phoned Ivan Ivanavich Matveyenka, head of the Republican Center of Radiation Control and Environmental Monitoring. [end recording]

LATVIA

Latvian Green Party Holds Conference

944K1212A Riga LABRIT in Latvian 18 Apr 94 p 2

[Article by Inara Egle: "Greens Must Not Change Color: The 5th Congress of the Latvian Green Party Discussed Party Identity and Elected Leaders."]

[Text] One year ago, when tactics for the Saeima elections were being discussed during the Green Party Congress, Dzintars Abikis, while still a member of the party at that time, attempted to convince his colleagues that by running

on a separate ballot the Greens could experience major disappointments in the Saeima elections. In theory, it turned out that he was right, but it seems that what was gained or lost cannot be easily evaluated. At the 5th Congress of the Latvian Green Party (LGP), which was held Saturday, the present day Latvian Way—"farer", Dzintars Abikis did not participate (this does not mean he was not mentioned—in both a positive and critical light). After re-registration of the party members as a political organization, the number of united Greens has declined from approximately 300 to 128 members, which is not that significant, considering that many parties, even the more popular ones, are in the same situation at present, numerically speaking. But, just as last year, the main question for the Congress was how the Greens, without losing their identity, could save their ability to influence the process and defend their interests, which is only possible through government structures.

As we know, in the municipal elections, the Green party, in the majority of cases, is running together with the national forces, and even in the Riga council elections, it has joined the ballot with the Latvian National Independence Movement (LNIM), and the Greens have 11 seats there—they did not even want any more. Latvian Green Party Co-Chairman Peteris Jansons said that the situation and the goals are different now, bringing the national political forces closer together. As far as we can remember, the union of national forces was formed primarily to support Latvian interests with respect to the citizenship law, and now it is also protesting against the initialed documents of the Latvian and Russian talks. And these are matters, as we learned at the Congress, that the Greens are entrusting to their coalition partners.

But the question concerns something else: by approaching and assimilating with other national forces, will the Greens lose the ability to voice their own principles in a sufficiently loud manner? This is also the concern of the longtime party Co-Chairman, Juris Zvirgzds, who reminded everyone that only and by itself can the Green Party create political security for all priorities related to its work and the environment. And therefore, two matters cannot be confused—Greens do not join with nor enter into another political power, but, instead, they work together with it as an equal partner. "I am for working together according to the principle of partner relationships, but I am against the case where a Green changes colors or allows environmental questions to be postponed to another time, some time later. We know that 'later' never comes", said Juris Zvirgzds.

Maybe there is no need to be afraid, because the partners, according to the assessment of Indulis Emsis, respect Greens precisely for their convictions, and have also studied their principles. But, for this same reason, according to Indulis Emsis, a "green line" must be defined, which, when it is crossed over, will cause the LGP to leave the partnership and drop out of the game. It should also be respected that the realization of Green ideas requires a long period of time, and therefore it is unnecessary to make exaggerated attempts to become a ruling political power, but rather, to focus on such politics that the Green standpoint is mentioned by all political forces, said Emsis.

He also mentioned the party's financial situation, because it is no secret to anyone that influence in a power structure can be gained only by those parties who have money. Greens do not have money, but in looking for it, they should continue to be on the alert, because there are more than just a few who would be willing to provide financial support for the party, but only on the condition that it renounces the Green lines and principles in specific instances.

Even though the question—of whether to go alone or together with others—started some arguments, which, it seems, still remain unresolved, this did not, in any case, show signs of a split among the Greens. Maybe this was because there weren't that many of them—not quite fifty. And maybe because, as Anna Seile concluded, this was a meeting hall where everyone could speak in a quiet tone, without microphones, and everyone understood and listened. And it is true that no calls to come to order were heard in the Green Congress, although when the candidates for party co-chairmen were proposed and characterized, an attendee summarized this process afterwards, asking: "Out of five angels, how can we select just three?" Yes, the Green Party still maintains the principle of electing, not one leader, but three co-chairmen to adopt their colleagues' resolutions, and so that the party is not called the Zvirgzds or Emsis party. This also has its minuses, which could be noticed also in the review period, because, since the functions are not precisely divided, it is also difficult to divide the responsibilities. It should be noted that none of these co-chairmen earn their living through being co-chairmen.

All three former party leaders—Juris Zvirgzds, Olegs Batarevskis and Peteris Jansons—were also nominated for the position this year. The bulletins also included the names of two more candidates—the Environmental Protection Committee Vice President Pavils Raudonis, and Kuldiga rayon Council Chairman Janis Klavins.

Most votes in the Congress were received by the former party "prime mover", Juris Zvirgzds, head of the ecology laboratory at the Zoological Garden. Next was Janis Klavins, who could be considered as the surprise of this Congress. Klavins joined the party only one year ago, and ran as a Green candidate in the Saeima elections (in Kurzeme, as the very first). But the public began to notice Klavins when all attention was turned to Skrunda, which is in Janis Klavins led Kuldiga rayon. Like Olegs Batarevskis—the third co-chairman—he was born in 1951. O. Batarevskis works as State Secretary of the Ministry of Justice. The Central Council elected at the Congress will include Jekabs Raipulis, Leons Magelis, Inese Eihvalde, Indulis Emsis, Janis Baltvilks, Gunars Lakutis, Skaidrite Albertina, Pavils Raudonis and Karlis Gudermanis (Peteris Jansons withdrew his candidacy).

The delegates at the Congress also adopted one resolution, requesting the President of the nation to proclaim the first week of May as clean-up week. During this week, according to the document, "let's wash windows—the eyes of Latvia, clean up courtyards and entryways."

UKRAINE

Columnist Views Controversies Around Chernobyl Closure

WS2505121394 Kiev KIYEVSKIYE VEDOMOSTI
in Russian 21 May 94 p 11

[Article by Vladimir Shunevich: "The Tender for 'Sarcophagus 2' Is Open"]

[Text] Currently, representatives of several firms—the participants in a tender, opened last year by Ukraine and the European Bank for Reconstruction and Development, for the best feasibility study of the project to transform the "tomb" housing the remnants of the Chernobyl nuclear power plant's fourth power unit into an ecologically safe facility—are examining the situation at the plant. In Zelenyy Mys, the settlement of the plant's security guards, the Ukrainian side represented by the leaders and specialists from the State Committee for Nuclear Power Industry [Derzhkomatom], the Ministry for Chernobyl Issues, and the Ukrainian National Academy of Sciences have explained to the guests the technical task on which the feasibility study of "Sarcophagus 2" construction should be based. Although the conversation, in which EC Envoy to Ukraine Louis Morren participated, was held behind closed doors, there was a presentation of the technical task. Its basic conditions are as follows: To build a new sarcophagus which would allow the continuation of research on the old one and its contents and the stabilization of the situation, to construct a nuclear waste storage, to sort out and reprocess nuclear waste, and to dismantle the old sarcophagus. The main issue here is the safety of people and environment. All this should not hamper the station's safe operation and its gradual closure. It has also been envisioned that Ukraine's industry and scientific-technical potential will be used in this process.

The last two conditions have become the most significant obstacle. The West is afraid of our instability, and it trusts neither the country's leadership nor our specialists. Nor does it want to continue the Chernobyl nuclear power plant's operation, indicating that after the plant is closed down, it will help to construct additional power units which would compensate for the closure, and it will build the "Shelter 2" itself. To put it briefly, the situation resembles that connected with Ukraine's nuclear weapons. By the way, the West does not put such pressure on Russia, which has many more less sophisticated RBMK reactors.

Asked by a KIYEVSKIYE VEDOMOSTI correspondent whether EC is planning to provide assistance to the constructors of the first sarcophagus and other people who suffered while liquidating the Chernobyl disaster aftermath, and whose health is much worse than that of their creation, and whether it is not better to allocate the funds the West intends to spend on closing the station for this purpose, Mr. Morren replied very evasively: "The international community should tackle all Chernobyl problems." His statement was expounded on by H. Hotovchyts, minister for Chernobyl issues, who led the presentation: "The EC Commission is helping us in many directions. This

assistance, however, does not relate to social protection of those who suffered. Here, Ukraine is coping with its misery alone."

Derzhkomatom Chairman M. Umanets: "The Chernobyl nuclear power plant is a part of our state's nuclear power engineering system, without which our independence is impossible. The station is operating successfully, and nobody is more interested in closing it than Ukraine itself. Therefore, we should have the decisive voice. Yet, the Chernobyl plant can only be closed down after resolving all problems. We cannot allow ourselves to again deceive the station personnel."

S. Parashyn, Chernobyl nuclear power plant director general: "We are professionals, and the most important goal of our work is to improve safety. Nevertheless, political games surrounding this issue, as well as our uncertainty concerning the future, are hampering our safe work. We are tired of being a bargaining chip in someone's policy. Two commissions of the International Atomic Energy Agency have recently visited the station, and nobody said that it should be closed down. On the contrary, they noted that we are proceeding on the right path, and that there are no preconditions to stop the RBMK reactors. Having done that prematurely, Ukraine would lose hundreds of highly qualified specialists. It takes from seven to 10 years to train one such specialist."

Of course, there are also contradictory opinions among our specialists, and while this protracted debate continues, the following question is very much to the point: What is the real condition of the "Shelter 1"? Will it not tumble down as we keep talking? I addressed this question to Oleksiy Bytskyy, former general designer and current director of the Ukrainian National Academy of Sciences department of design-construction works of MNTTs [expansion unknown] "Shelter":

—The current condition of the sarcophagus does not pose any threat, Oleksiy Andriyovych says. However, it is deteriorating, simply because everything in the world ages. There are not enough funds to service it; we are looking for them. It is unfortunate that the tender drags on. The "Shelter 2" should have been built as early as two or four years ago. I doubt that foreigners will build anything. This is nonsense, and the old sarcophagus will last another 30 years.

Well, shall we wait?

New Nuclear Generator To Be Commissioned in October

LD2505194494 Kiev UNIAN in Ukrainian
1550 GMT 25 May 94

[Text] Zaporozhye Oblast—The government commission for the acceptance of generating set no. 6 as operational with its capacity rated at one million kilowatts, planned for commissioning in October, held a sitting at the Zaporozhye nuclear plant on 24 May. The commission united representatives of the State Committee for the Use of Nuclear Power, the Power Engineering and Electrification Ministry, the Environmental Protection Ministry, the State Committee for the Control of Work Safety in Nuclear

Engineering, the fire protection directorate, and the sanitary and epidemiological service.

Mykhaylo Umanets, chairman of the State Committee for the Protection of Work Safety in Nuclear Engineering and official in charge of the government commission, has told a UNIAN correspondent: "This is the first time that the government commission has assembled since the moratorium on the development of nuclear power engineering in Ukraine was lifted in October 1993. Under conditions of continuing recession in the economy, the launch of a new enterprise—the one million-kilowatt nuclear power generating set—is a splendid event. Representatives of controlling bodies have noted

the high degree of the equipment's reliability and readiness for work, with 80 percent of it having already undergone trials in the operational mode. All the services have been fully manned with highly qualified personnel. A new-generation water-cooled water-moderated power reactor has been installed at the generating set. It meets international nuclear and radiation safety requirements and is equipped with additional automated emergency reactor protection and fire fighting systems."

Specialists from the National Control Center at Ukraine's Power Engineering and Electrification Ministry estimate that the electricity to be produced by the new generating set will make a substantial contribution to the state's single energy system.

DENMARK

Agency Views Paper Recycling Impact on Environment

94WN0265B Copenhagen BERLINGSKE TIDENDE
in Danish 19 Apr 94 p III 4

[Article by Janni Andreassen: "Forest Owners Want To Burn Wastepaper"]

[Text] Energy: The Danish Forest Federation wants to burn old paper, which is accused of increasing CO₂ pollution and destroying the economic potential of forests.

Wood producers and the recycling industry are in strong disagreement over whether it should be permitted to burn wastepaper for energy purposes.

The Danish Forest Federation has come right out and said it: Burn the paper instead of increasing demand for recycled paper. There is quite enough of it on the market, a fact that is reflected in the price, which, roughly speaking, is next to nothing. A growing recycling industry is destructive of forests, which cannot dispose of new wood. And at the same time only recycled paper, through its production process, helps increase CO₂ emissions.

The paper industry in Denmark is also involved in the debate. Not surprisingly, it holds the opposite point of view.

In a letter to the minister for industry, the environment, and energy and the [Folketing standing] Committee on the Environment, Stora Papyrus Dalum, Inc., Skjern Papirfabrik, Inc., and Grenaa Papir, Inc. state that burning wastepaper would destroy the supply of wastepaper to the Danish paper industry.

The Liberal, Conservative, and Progressive Parties have proposed to the Folketing that the ban that has existed since 1986, under which paper collected by cities and towns must not be used as an energy source, be lifted. That is to say, that it must not be burned.

The proposal has just had its first reading in the Folketing and has not been sent to the Committee on the Environment, and the Danish Forest Federation has asked to appear before it.

Recycling Paper Increases CO₂ Emissions

The Environment Administration has prepared a note on the issue that shows the advantages and disadvantages of burning paper. Among other things, it looks at when there is increased recycling the consumption of fossil fuels and thus CO₂ emissions increases.

"This squares with both common sense and foreign analyses. On the other hand, it does not square well with Danish environmental policy to prohibit an energy source that could cut down on the repercussions of the greenhouse effect by using fossil fuels," said Martin Einfeldt, who works in the information department at the Danish Forest Federation.

He pointed out that in its note the Environment Administration makes the proposal to rescue scrap paper's CO₂ record: namely by using the wood, which the forests are saving, for energy purposes.

"They came up with that idea out of the blue. At the moment Europe's forests are experiencing a growth rate that is 50 percent greater than the cutting rate, so the tree surplus is growing by 200 million cubic meters per year," Einfeldt said.

The paper industry has told the Environment Committee that it is not able to use new wood as a raw material either technologically, economically, or on the market. The industry is set up to use wastepaper and cannot help the forest industry out of the crisis it is in owing to a shortage of sales opportunities.

Analysis Not Good

"In its note on recycling, the Environmental Administration is hinting indirectly against burning and depositing that the analysis cannot be used as a basis for making a decision in the Folketing. The Danish Forest Federation is entirely in agreement with this point of view," Einfeldt said.

Environment Minister Svend Auken has so far rejected the need to change the current law pertaining to burning in the waste sector.

FINLAND

Chernobyl Fallout 'Still Surprisingly High'

LD2505175094 Helsinki Suomen Yleisradio Network
in Finnish 1300 GMT 25 May 94

[Text] The fallout from the Chernobyl nuclear plant accident eight years ago is still evident in Finland. A survey covering southern Finland carried out by plane a few weeks ago revealed regions where radioactivity in the area is still surprisingly high. In addition, there were smaller regions, including Myrskylae and Kuhmoinen, where cesium 137 was found in quantities of 200 kilo-becquerels per square kilometer. These amounts are not dangerous for humans even though they are conspicuously high. Levels of 560 kilo-becquerels would demand protective measures.

FRANCE

Franco-Russian N-Accident Simulation Exercise Completed

BR2605143894 Paris LES ECHOS in French
25 May 94 p 8

["Ph. E." report: "Nuclear Accidents: Franco-Russian Simulation"]

[Text] At a time when shutting down the Chernobyl power station is once again in the news because of Ukrainian blackmail aimed at ensuring its closure, the French and Russians have just engaged in the simulation of a large-scale disaster of the same type as that of Chernobyl. The objective was to test, with the help of the French Nuclear

Protection and Safety Institute (IPSN), the Russian organization in the sphere of protecting populations and administering contaminated areas in the case of radioactive contamination of extensive areas. The former Soviet Union's experience is unique in this sphere with the nuclear disasters of Chelyabinsk in 1958 and Chernobyl in 1986.

The exercise, which required one year's preparation, was held from 21 to 25 June 1993 in the Kaluga region, a Russian territory already strongly affected by the effects of the Chernobyl explosion. The scenario and the facts are, moreover, directly inspired by the Ukrainian tragedy and the reaction of the local public authorities and the population at the time. Representatives of the administration, experts, representatives of the population and the media took part in the operation. They had to face the problems which arise not only immediately after the accident but also 16 days, then one year, and five years afterwards. A satellite link with the IPSN center in Fontenay-aux-Roses enabled French experts to participate directly in the operation.

The analysis of the results of the experiment, which was carried out last week, demonstrated the split which exists among the three main protagonists, namely the experts, the administration, and the media. The first complaint in particular of not always being heeded by civil servants who, often fearing panic among the population and the spread of rumors, tend to do nothing. This response is found again in their relations with the media. The French and Russians were able to broadly examine their decision-making processes, and their crisis management techniques, an exercise which was sufficiently productive for the two partners to decide to repeat the experiment in summer 1995 in Chelyabinsk, the other unfortunately famous site of the Soviet nuclear industry.

GERMANY

Bill on Site Reclamation Being Drafted

BR2005132594 Wuerzburg *UMWELT MAGAZIN*
in German Mar 94 pp 110, 112

[Article by Charlotte Ruck: "Legislation Goes Marching On"]

[Text] About 50,000 derelict, polluted industrial sites have been identified to date in eastern and western Germany. Although the plots of ground concerned often constitute prime inner-city sites, the local authorities usually seek investors in vain. The risk of acquiring a plot that conceals an old dump is much too great. The ensuing costs would be incalculable.

This dilemma is particularly great in the new federal laender. Local authorities are under enormous pressure to attract investors to create jobs and raise tax revenue. However, as the derelict sites are unsalable, business areas are springing up all over the place in green belts. As a result, the landscape is being unnecessarily spoiled, despite the fact that areas with full infrastructure facilities are already available.

Special Attention

For this reason, the derelict site issue is receiving special attention, particularly in the new federal laender. The local and land-level authorities are pressing on with both the identification and hazard assessment of likely areas and their reclamation. For instance, Thuringia has had a law on waste management and derelict sites since as early as 1991.

It is also expected that the law on investment incentives and residential building land, which came into force on 1 May 1993, will also give a major boost. Operators of dump reclamation facilities can hope for simpler, speedier licensing procedures. Indeed, the last few months have seen a boom in the establishment of new stationary soil conditioning facilities, particularly in the new federal laender.

Simplified Licensing

According to Hamburg-based Nordac, which examined the consequences of the law on investment incentives at a symposium held in November 1993, there are currently over 150 facilities with annual capacities ranging from 3,000 to 200,000 tonnes at the planning or licensing stage, under construction, or already in operation.

The law on mobile polluted site conditioning plants is making a particularly strong impact. Although these plants were subject to just as comprehensive a licensing procedure as the stationary facilities before the law was amended, they are now exempt from licensing if they are operated for less than 12 months on the same site.

The specialists hope that the simplified licensing procedure will bring an increase in the number of reclamations completed. At the very least, there ought to be a move away from containment toward decontamination measures. However, fears are being voiced in the skeptics' camp that the mobile plant market will become increasingly crowded with suppliers whose systems are less than state-of-the-art.

It was expected that increasing competition would lower prices, but as high-performance systems would necessarily cost more than, for instance, plants with a lower conditioning capacity and/or minimum air and effluent treatment functions, overall quality would fall. Air exhaust and effluent conditioning systems often accounted for two-thirds of stationary plants, explained a Nordac spokesman at the symposium.

The state of the art and the degree to which it has been adopted vary in Germany. Soil conditioning plants, 15 of which are currently operating throughout the Federal Republic, present an advanced level of development, but the situation with thermal plants is quite different: To date, there is only one trial plant running in the whole of Germany. Other countries are further ahead in this field, the Netherlands, for instance, having several plants in operation. As numerous licenses for thermal plants are

currently pending, experts assume that this technology will soon be available in Germany as well.

The state of the art for biological processes is well defined, particularly for on-site processes, although disillusionment is spreading as to on-site reclamation strategies—those not involving the removal of soil—say insiders. The scope for using these processes is proving limited.

Clearly Defined Ceilings Called For

Even more than simplified licensing procedures for reclamation plants, clearly defined ceilings for soil contaminants are being called for. The lack of certainty as to how far a reclamation project has to go is a major factor in discouraging many people from even considering a project of this type. The regulations on soil conservation are currently scattered over several areas of legislation (e.g. laws on water, air, and waste disposal). In addition, some *laender* have their own statutory regulations on polluted sites.

Great hopes are being vested in the soil conservation bill currently being drafted, the purpose of which will be to conserve the soil in its multiplicity of functions, to safeguard it against hazardous modifications, to remedy damage that has already been done, and to prevent such damage from affecting mankind and the environment. A comprehensive range of procedures for conditioning polluted sites is also envisaged.

Basis for Technical Directive on Soil

However, the primary purpose of the law is to create the prerequisites for incorporating soil conservation requirements into statutory orders and administrative provisions. In particular, the law will form the basis for the Technical Directive on Soil, in which binding values will be laid down for the soil, with regulations on prevention and hazard aversion to the fore. Today's large number of lists of soil ceiling values will thus be replaced by a single, nationwide system of rules.

An inventory of various assessment aids and recommendations for treating contaminated soils has been commissioned by a *Laender* Waste Management Association working party. It emerges from this inventory that recommended soil values are currently largely set with reference to the purposes for which the land is used and the resources to be preserved.

Based on significance and function, experts from the Ruhr District's Institute of Hygiene in Gelsenkirchen differentiate between:

- Background values: Generally widespread or typical regional pollutant concentrations in soils outside actual or suspected polluted sites;
- Test values: Concentration values in excess of which further investigations are required, but below which the hazard risk may be regarded as negligible;
- Critical values: Maximum concentrations that must not be exceeded, as individual cases may present an intolerable level of risk in particular circumstances; in the

event of these values being exceeded, the type and extent of salvage measures and reclamation methods must be decided without delay;

- Reclamation target values: Maximum concentrations for soils to be achieved on site using salvage and reclamation measures, and wherever possible to be further reduced;
- Incorporation values: Quality criteria/maximum concentrations for soils to be incorporated or reincorporated into multiple-use areas.

In addition to drawing up the actual values, great emphasis is placed on clearly defining the concepts and on implementing the recommended values (specifications for sampling and analysis procedures, for instance). There is still a considerable need for coordination in establishing the figures for various types of ground use.

Far-Reaching Ideas

It emerged clearly from the "Environmental Conservation Forum," which the Rhineland Technical Monitoring Board organized in Cologne at the beginning of October 1993, that this is not all that the representatives of the *laender* expect of the law on soil conservation. Dr. Hans-Joachim Pietrzeniuk, representing the Land of North Rhine-Westphalia, stressed the need to create a full range of facilities for assessing and treating polluted soil; a soil information system, soil pollution maps, and areas scheduled for long-term monitoring should all be considered.

The *laender*'s main hope is that financing mechanisms will be introduced at federal level for measures for which specific responsibility cannot be apportioned. In view of the federal and land governments' empty coffers, this could give rise to a dispute that will be difficult to settle in the near future. However, if areas are to be made rapidly available for investors, particularly in the new federal *laender*, solutions for financing the requisite reclamation work must be found at an early date.

Differentiated Site Reclamation Criteria Required

BR2005132894 *Wuerzburg UMWELT MAGAZIN*
in German Mar 94 pp 112-113

[Article by Hans-W. Wichert: "Old Liabilities—New Tasks: Criteria for Reclamation"]

[Text] The problems surrounding polluted sites in the new federal *laender* may be seen as the major obstacle to the sale of the old factories with a view to creating new jobs. However, it is important to differentiate between the various types and degrees of pollution and the future uses to which it is intended to put the sites concerned.

For the purposes of polluted site reclamation—and this does not apply solely to the new federal *laender*—a distinction will have to be drawn between the general principle of prevention and that of salvaging in order to conserve the soil as a natural entity and the foundation for human, animal, and plant life. Unless this distinction is clearly

drawn, there will be a danger that prevention standards will be applied to operations designed to remedy existing soil pollution. This would result in an enormous outlay and gigantic reclamation costs.

Typical Polluted Site Problems

It is not only the special cases of former industrial areas, such as those containing coking works, gasworks, refineries, etc., that present problems. Polluted sites are often to be found at factories producing products above suspicion of contamination, but which merely used (apparently small quantities of) substances represent a water hazard.

In most of these cases, only part (often under 20 percent) of the site is contaminated and needs to be cleaned up. Plant sections such as former dyeing units, sedimentation tanks, residue deposits (factory dumps), drum stores, heating boilers, etc. are the main parts affected. In all these cases it is to be expected that the soil will have been polluted by slag containing heavy metals, petroleum products, phenols, chlorinated hydrocarbons (CHC's), and creosotes (polynuclear aromatic hydrocarbons). All these pollutants are to be found in the soil in varying concentrations, and can spread down to great depths, for instance in troughs, hollows, and gutters and over wide areas.

It often emerges in practice that the reclamation strategies drawn up at the beginning have to be changed into use-oriented versions without reference to the former factory. Multifunction use of the type frequently called for in the early eighties cannot be achieved. It is unrealistic to assume that the entire mass of soil can be cleansed to a degree of purity reflecting its natural state.

In addition to the nature of the substance concerned, the path by which it spreads plays a decisive role in determining the hazard that it constitutes for human beings, animals, plants, and the environment. Chemical degradation combined with volatility in water can endanger the groundwater, whereas volatile substances also take an aerial path. It is only via knowledge as to how the substances are spread that it can be established whether they place the various resources at risk.

If a substance in the soil may be regarded as persistent, it has zero effect on the groundwater and/or human beings provided it remains below the ground surface but at a sufficient distance from the groundwater. The situation is quite different if a substance in the soil is rapidly degradable.

This has major implications for reclamation technology, as it may be assumed that processes take place in nature in accordance with the law of minimum, i.e., with the minimum economic outlay.

Developing the Right Criteria

A major issue, especially in the new federal laender, will be the elaboration of criteria that distinguish between the differing conservation targets for avoiding contamination either on a preventive basis or as a salvage measure. Without doubt, reclamation targets frequently call for the lower preventive level, not least in view of the legal uncertainty facing the licensing authorities.

Taking a realistic view of the overall situation—particularly with an eye to stretching limited resources—

every attempt should be made to explore alternative strategies that make it possible to release parts of the factory sites so that they can be put to new uses.

Three Reclamation Projects Funded by Research Ministry

BR2005133094 Wuerzburg UMWELT MAGAZIN in German, Mar 94 p 114

[Text] Three projects, for which the Federal Ministry of Research and Technology (BMFT) has granted funding, will take on a pilot role for other reclamation plans. About 25 million German marks [DM] will be spent on developing and testing reclamation processes for use on heavily contaminated soil at the former Buna chemicals combine, the Ilsenburg copper mill, and the Zichow hazardous waste dump.

Approximately DM19 million are earmarked for the Buna project, where the main emphasis is on dealing with high concentrations of mercury contamination. In addition to developing and testing analysis and surveying methods for use in hazard assessment, the team will work out environment-compatible, economically viable methods for demolishing the buildings and machinery. A representative quantity of contaminated material and soil will also be reconditioned in the course of the project.

The second pilot project is the Ilsenburg copper mill, which is contaminated with a high level of heavy metals, dioxins, and furans, as is the area surrounding it. An initial DM4.2 million will be spent in the first stage on developing reliable processes for decontaminating factory buildings that cannot be demolished in the normal way.

The third site is the "Great Zichow Hollow," a sink still in use as late as 1989 as a hazardous waste dump for solid, viscous, and fluid waste. As it has no underseal, it poses a hazard to the groundwater and the surrounding drinking water conservation area. In addition to securing the sink to avert this danger, the first phase of the project will draw up a strategy for decontaminating the solid and fluid waste. The second phase will cover a partial reclamation of the dump by a combination of various methods.

Conversion of Bitterfeld Works Reported

BR2005133294 Wuerzburg UMWELT MAGAZIN in German Mar 94 pp 114-116

[Article by Kathrin Hoffmann and Bertram Heimlich: "Like the Phoenix Rising From Its Ashes—A Modern Industrial Estate Born in Bitterfeld"]

[Text] Where the chimneys of 92 factories once belched out evil-smelling smoke in the old days of the GDR [German Democratic Republic], a modern industrial estate will now be born, a showpiece example of reclamation and redevelopment of a large-scale derelict, polluted industrial site. Ultramodern production facilities for the chemical and other industries are being built in Bitterfeld on the site formerly occupied by the chemical combines.

Bitterfeld/Wolfen Well Surveyed

The Federal Government and the Land of Saxony-Anhalt spent 270 million German marks [DM] on the environmental reclamation of the Bitterfeld/Wolfen area up to the end of 1992 alone. "This is now probably the best surveyed area in the whole of Germany," says Volker Eisewicht of Bisantech Chemical Engineering and Reclamation Bitterfeld GmbH, the Preussag AG and Chemicals AG Bitterfeld-Wolfen joint venture that has been engaged in consulting and engineering work on the site since 1991. Its work also includes the planning of the Bitterfeld-Wolfen municipal sewage treatment plant, which is being built on the edge of the industrial estate.

The firm, which was formed from Chemicals AG in 1991, employs a staff with first-hand knowledge of the chemical works and their former output, an advantage that has paid dividends.

The sewage works will not treat only the effluent from the future industrial estate but will receive input from the sewers of the 26 municipalities making up the Lower Mulde and Wolfen sewage treatment consortia. Four high-level bioreactors of sealed tank design will purify the water, and their compactness means that considerably less space will be taken up than is usually the case. The new plant is designed in three stages, including biological after purification and sludge draining. In addition to a prepurification stage for effluent containing dyes, the sewage works has a simultaneous activated carbon adsorption system for substances that are not readily degradable and a simultaneous phosphate elimination unit.

Reclaimed Areas for Redevelopment

Right next to the sewage treatment works, Bayer is building a total of five production facilities. Europe's largest pharmaceuticals factory and one paint and one methylcellulose factory are scheduled to go into production before the end of the current year. However, the site had previously been cleaned up at the state's expense. Bisantech played a major role in the planning and supervision of this project as well.

The gigantic survey program carried out on the factory site and in the surrounding area to locate the dumps immediately after unification is now in hand. As Eisewicht says, "Sample drillings and analyses were performed over the areas according to a specific grid." Old records were subsequently assessed in the search for missed pockets or old dumps. The industrial waste was then studied thoroughly, and aerial photographs were evaluated as well.

Although only selected areas required reclamation on the site taken over by Bayer, redevelopment was no easy matter. "The mains that supply the whole complex with cooling and service water from the Mulde water works ran straight across the building site and had to be replaced with kilometers of pipes. An old, open sewer also had to be cased," says Eisewicht. Deposits of demonstrably nonhazardous waste were removed to a regulation dump. The perimeter area bordering on the former dye works also presented problems, as no detailed information about it was available.

Interim Soil Storage

Analyses performed as the building work progressed ensured that the work proceeded smoothly. "Contaminated soil was removed and is being stored pending completion of the planned disposal and reprocessing center," says Eisewicht of the interim solution. Leveling the site's irregular terrain and, above all, the immense pressure of time, added to the problems.

Whereas the sewage works and the new Bayer buildings are not being erected on areas on which production facilities once stood, as many of the other incoming industrial companies as possible are scheduled to occupy dismantled sites. The buildings were tested both inside and out, and the surrounding areas surveyed prior to demolition, after which Bisantech, in conjunction with the Environment Office and Chemicals AG, drew up a disposal and reprocessing strategy for the complex, laying particular stress on the reprocessing of the demolition rubble.

Dismantling by Stages Possible

The chemical plants are currently being dismantled by stages. Eisewicht takes the lime-ammonium nitrate plant as an example to describe the process: The production plant was first dismantled up to the upper perimeter of the site, followed by the other facilities, such as the warehouse, rail tracks, and roads. This in turn is being followed by the complete dismantling of the underground systems to a depth of 2.5 meters.

As much as possible of the hazardous waste that accumulates during the reclamation work will be reconditioned or disposed of on site, so it is planned to set up a modern disposal and reconditioning center with physicochemical treatment and hazardous waste incineration facilities on the reclaimed land occupied by Chemicals AG. For the time being, an immobilization process is being used to render heavily polluted soil reusable.

All this preliminary work on the site of the future industrial estate is creating incentives for potential investors. As a location, Bitterfeld-Wolfen is now offering more and more facilities that will encourage further companies to move in. In addition to Bayer, other famous names have already taken up residence, including Heraeus Quartz Glass, a company that produces optical fibers for telecommunication cables. Ultraclean production conditions are absolutely essential for the manufacture of optical fiber cables, so this is yet another sign of the enormous improvement in Bitterfeld's image.

Volker Eisewicht reckons that the bulk of the work on the whole site will be completed in five years at the most, by which time a gigantic mechanism combining dismantling and reclamation will have completely changed the face and the character of the area. It will be exciting to see if the costly efforts on the part of the Federal Government, the Land of Saxony-Anhalt, and the firms involved will not only benefit Bitterfeld itself as a location but will serve as a model for other areas.

Immobilization Process for Soil Conditioning Described

BR2005151594 Wuerzburg UMWELT MAGAZIN
in German Mar 94 pp 116-117

[Text] Wherever extractive reclamation methods come up against technical and economic limits, immobilization processes nevertheless make it possible to put polluted areas to new uses. This is especially true in cases of multiple contamination with hydrocarbons, polynuclear aromatic hydrocarbons, and heavy metals on land rich in coarse clay, and of widespread pollution in industrial areas. Immobilization using a binding agent will also make it possible to recycle large expanses of the heavily polluted Bitterfeld industrial area, where an on-site hazardous waste incineration plant is to be built once safeguards are in place.

In May last year, work began on digging out soil, backfill, and rubble containing heavy metals and dioxins on the 10.5-hectare [26-acre] Chemicals AG site. By the end of December 1993, the Nuernberg-based reclamation company, PBS, had dug out about 50,000 cubic meters of material and immobilized 32,000 cubic meters. The material is first homogenized then immobilized in a charge mixer. The soil and binding agent are weighed out electronically and precisely proportioned for this purpose. A mixing throughput of up to 1,000 cubic meters a day can be handled.

The immobilized soil is reincorporated into a controllable system that is separated from the unpolluted soil by a dividing layer. Samples of both the untreated and the reincorporated soil are taken and analyzed during the reclamation work.

Criteria for Assessing Amenability to Immobilization

| Contamination | Soil Type | Intended Use | Extension |
|--|------------------------------------|-------------------|--------------------------|
| volatile halogenated hydrocarbons, hydrocarbons | gravel | playing field | local accident |
| phenols, benzene, toluene, xylene | sand | residential area | small area |
| polynuclear aromatic hydrocarbons | coarse clay | road, parking lot | limited residential area |
| heavy metals | clay | industrial estate | large industrial areas |
| multiple contamination, e.g., hydrocarbons, benzene, toluene, xylene, heavy metals | In increasing order of amenability | | |

Heavy Metals Immobilized, Hydrocarbons Degraded

BR2005151794 Wuerzburg UMWELT MAGAZIN
in German Mar 94 pp 117-118

[Text] Soil contamination with combinations of toxic substances, such as hydrocarbons and heavy metals, often present major problems. Low-cost biological reclamation processes are ruled out in most cases, and all that remains are costly soil washing or heat treatments or dumping.

Markkleeberg-based Biolipsia GmbH has developed a gentle two-stage process for this area. In the first stage, the adsorption agent Metasorb B is added and thoroughly mixed into the soil material, which is ground down to grain sizes of less than 20 mm. All the heavy metal ions present—even chromium—are securely bound, and after a reaction period ranging from a few hours to a few days, hardly any bioavailable heavy metal ions remain in the material. This process is irreversible over a very wide pH range.

Biological Degradation in Biobeds

In the second stage, the organic contamination can be eliminated in biobeds. The pretreatment has bound all the heavy metals to the extent that they have no inhibiting effect on the enzymatic activity of the bacteria that degrade the hydrocarbons. Other nutrients required for pollutant degradation, such as alkaline or earth-alkaline ions and phosphoric and nitrogenous salts, are not bound by the adsorption agent.

The company has performed successful laboratory tests over the last few weeks, where adding Metasorb in a ratio of five to 10 percent by volume of the soil being treated achieved degradation rates ranging from 35 to 85 percent of the initial concentrations after a 15-hour mixing period followed by the degradation test—with prefermented biomass over 24 hours. The producer's initial findings indicate that the process is economically viable, as the cost per tonne is only DM25 to DM80 higher than with purely microbiological processes.

If biobed treatment is prolonged sufficiently, the hydrocarbon concentrations can be reduced to the extent that the material can be used for reincorporation. Long-term trials in Belgium have shown that no discharge of heavy metals into groundwater-bearing strata need be feared.

Scharping, Greens Minister Debate Economy

AU2005162894 Hamburg DIE ZEIT in German
20 May 94 p 23

[Interview with Rudolf Scharping, SPD chairman and minister president of Rhineland-Palatinate; and Joschka Fischer, Greens deputy and environmental minister of Hesse, by Thomas Hanke and Fritz Vorholz; date and place not given: "You Have To Say What Is Important"]

[Text] DIE ZEIT: Mr. Scharping, have we understood you correctly? You said you want to struggle for "ecologically honest prices" and an "economic and ecological reorientation of the tax system," and you have also said that "the costs of mobility must reflect the costs of environmental damage."

Scharping: Yes. Then there will be no constant development without ecological progress.

DIE ZEIT: We are basing our question on quotations from the CDU [Christian Democratic Union] basic program.

Scharping: That does not matter. The CDU makes unscrupulous use of definitions. If one wants to understand CDU policies, one must pay attention to results, and ignore the practice of playing about with definitions.

DIE ZEIT: I take it that if you become chancellor you will combine the combating of unemployment with the ecological revival of the economy?

Scharping: That is correct. It will include a modernization of the state's social spheres.

DIE ZEIT: You, Mr. Fischer, have described the SPD [Social Democratic Party of Germany] program as "Green cosmetics." Why?

Scharping: If the SPD wants an ecological restructuring, that is certainly praiseworthy and good. But we will have to see whether the government assumes responsibility for this. That is the problem.

DIE ZEIT: But before we indulge in a political dispute, I would like to say what this country really needs, and I simply cannot imagine how one can create the required number of jobs without investing major funds in an expansion of the transportation system or energy supply. These funds will have to be consumed, and society will have to be told about this.

Scharping: There is a major difference between the SPD and the Greens. We say that the level of taxation to be reached in 1995 must not go any higher.

Fischer: I agree. We are united on that issue.

Scharping: In that case you have to explain how, apart from the 10 percent supplementary tax, you intend to include the investment aid levy, labor market levy, increase in capital transfer tax, property tax, capital gains tax, crude oil tax, living space tax, speculation tax, tax on increased property value, and packaging levy in your concept. The Greens are saying virtually nothing about the SPD's wish to balance out these expenses.

Fischer: Wrong. When we talk about additional tax burdens, we must examine shifts in the tax balance, not additional quantities of taxes. The tax we want to impose on raw material and energy consumption must of course be gradually balanced out in the form of improved services, or by a reduction in income-related taxes.

Scharping: The SPD program is extraordinarily specific concerning ecological measures and concerning ways of relieving incomes of the tax burden and easing the tax burden of enterprises that are undertaking investments. Examples are tax exemption on the lowest incomes, a uniform child benefit of 250 marks per month and per child, and an abolition of Kohl's solidarity tax supplement, instead of which an extra tax could be imposed on the first 20 percent of one's income. That would increase and strengthen growth. We want to create jobs and reduce wage-related costs, in this way making a serious effort at

relieving the burden on employment and increasing the burden on raw materials and energy consumption. On the other hand, the Greens program is doing nothing except causing a new ecological debate.

Fischer: I admit our party congress did not discuss a specific adaptation to the finance concept. We did not intend to discuss it in any case. But the SPD also seems not to have examined this topic comprehensively. It seems to have given it merely a cursory examination. The situation will look quite different when an onslaught on the state's coffers is finally made and the financial realities are spelled out in Bonn.

But it is quite wrong to believe that we have not said anything on the subject of tax relief. For instance, we want to balance out the capital gains tax by means of adjustments to other taxes. In this point I think we are more honest.

Scharping: But the Constitutional Court must provide a guideline before then. Our program states that we cannot impose a bigger tax burden on used assets and on pensions. Neither can we increase tax on owner-occupied accommodation.

But the main point of economic and ecological development is the need to release the forces of growth in Germany. That can only succeed if enterprises have clear conditions that they can rely on, conditions that are not bureaucratic and do not inhibit a product-oriented environmental protection. But that will not work if we keep getting new signals for new tax burdens.

Fischer: I see no reason to object. These new signals, primarily signals for investments, must be green-oriented, so that new environmentally-friendly jobs can be created. Then I too will be ready to help abolish the bureaucracy surrounding environmental legislation.

DIE ZEIT: Mr. Scharping, basically the SPD also wants to change the price traffic lights to green. But your program conceals real intention behind the statement "appropriate measures." That is very vague.

Scharping: On the contrary. We have said very clearly that the consumption of energy and raw materials must be made more expensive. But since the Maastricht treaty, we no longer have the possibility of implementing our own energy taxation. This now has to be decided on a European level.

DIE ZEIT: Our research has provided us with a different answer. There is no real ban on implementing our own tax.

Scharping: Yes there is. In any case, the German economy's international bearing is stronger than that of the other major economies, and one cannot support Europe politically while retaining an economy that is only geared internally.

Fischer: Rudolf, the European Union does not stop you taking the lead, and that does not mean one is a nationalist. You seem to be hiding behind Europe, just like the present Federal Government.

Scharping: On the contrary.

Fischer: And I do not think we can seriously restructure the environment after energy prices have become more expensive. European electricity prices are moving in a sort of channel. I think we should travel along the top of this channel in order to create pressure leading to a greater efficiency of new technologies. That is also the idea behind establishing the price of gasoline to five marks per liter. No one among us has said that we want to raise gasoline prices to this level immediately.

Scharping: In the first year, a liter of gasoline should go up by 50 pfennigs, and in subsequent years 30 pfennigs annually.

Fischer: We gradually want to raise crude oil taxes, in order to finance the development of an energy-saving automobile. That is the main objective. At the same time, we want to use these funds to develop local transportation systems. On the other hand, I consider your views half-hearted. You know very well that if you are serious about your slogan of "work, work, work," you have to proceed in this direction. But you obviously do not have the courage to say so right now.

Scharping: You are not going to make this idea any more correct by constantly repeating it. As far as energy prices are concerned, we are quite near the top of the European table. A global market can no longer be financed out of German state resources alone. I consider it naive and dangerous to think that it can.

Ecological modernization is the human-friendly way to the future. It is a political and technological challenge, and not a bureaucratic straitjacket. At the same time, this is one of the growth markets of the future. One must convince others about this.

DIE ZEIT: When will you convince the European partners?

Scharping: There are enough objectives we can implement independently. In the construction sphere, we want to draw attention to ecological aspects. Electricity can be generated from recycled energy sources, and thus relieved of tax. We want to improve storage facilities for this type of electricity, and we want to encourage the use of solar energy in our "100,000 Roofs Program." In this sphere of environmental progress alone, the SPD has come out with over 30 very specific suggestions that I fail to see among the Greens. This is national policy that only we can implement. It is scientifically future-oriented and environmentally wise, and it will create jobs.

Fischer: The main problem is the prices of energy. Even the "100,000 Roofs Program" will not help much unless recyclable energy sources are economically viable. What I miss in the entire debate is a determination to proceed with a thorough renewal, for example a decision to solve traffic problems in conurbations in the course of 20 years, or turn Germany into a leading nation in the use of solar energy. If there were a second railroad revolution or a breakthrough in energy economization, you would certainly get your new jobs. But you must have the courage to set the financial points in such a way that the train travels in the right direction.

DIE ZEIT: Until now, Germany has performed quite well with its leading cost-effective environmental policy.

Scharping: Careful. It is true that we are number one in the world concerning industrial smoke filtering, water filtering, and removal of waste. But I fear we are threatened with a delay in development because until now we have concentrated almost exclusively on the environment. In Japan, on the other hand, the government, industry, and science are all involved in what is known as "ecolution," that is a combination of ecology and evolution. In the United States there are similar initiatives—not just in the sphere of "information highways," but also in the "clear car" concept. With the government acting as anchorman, the experiences of science, industry, and research are brought together in order, for example, to produce cars that consume less fuel. Therefore in Germany, too, we must redirect our steps so as not to miss this opportunity.

DIE ZEIT: For this purpose, the SPD has suggested a "Forum of Future-Oriented Products." Mr. Fischer obviously has grater trust in price signals.

Fischer: So does Rudolf Scharping. If he pauses to examine the consequences of what he is saying, he will go further than the mere idea of producing a fuel-efficient car. The price of gasoline is presently 1.50 German marks per liter, about the same as at the end of the 1950's and the beginning of the 1960's when one ignores inflation. In any case, I am quite prepared to talk to him about the speed with which the price of gasoline should increase. I do not understand why the SPD is so afraid to discuss this.

Scharping: You are underplaying people's acceptance of an ecological reform policy. You will never gain support for a policy aimed at increasing the price of gasoline by 50 pfennigs next year, just as you will never make people believe that nuclear energy can be given up in one or two years. That is utter nonsense.

Fischer: Your idea about reducing the speed limit is just as nonsensical. To bring speed limits in line with the rest of Europe...

Scharping: We have not done that. We have said: A reduction in the speed limit to 130 kmh on 90 percent of German freeways, in keeping with EU recommendations...

Fischer: But Germany is the only country without a general speed limit. This makes as much sense as the statement of ours that you keep on quoting.

DIE ZEIT: Mr. Scharping, is it possible that you do not trust the voters?

Scharping: The voters are much wiser than some propagandists think. But in Germany there is a shortage of at least five million competitive jobs, two million people are looking for affordable accommodation, and 1 million children are being brought up with social security benefits. No progress can be achieved in Germany if one pursues the slogan "More Tax and More Bureaucracy." Therefore we

must open the road to growth, or else there will be no boom, no permanent jobs, and no stable state finances. I also wish to win majority support for a triple reform idea—a socially strong, socially just, and an ecologically modern Germany.

Fischer: We will see what happens about majority support. But as far as the diagnosis is concerned, I see nothing wrong. However, the mass unemployment, the enormous costs of unification, the missing kindergarten places, the necessary educational expenses, and the costs of the environmental restructuring have brought us to a point where we just tell the people: The high level of consumption of the 1980's cannot be maintained because of the drastically rising state debts under the Kohl/Waigel government, and because we need additional funds to safeguard the future. Therefore I think it is a good idea to say before the elections what is the most important thing.

Scharping: You must say what is important. You are talking not of restructuring, but of increases. Let me tell you this. If the Greens suggest a tax on the size of accommodation, and raise the tax on property and crude oil and introduce an additional tax...

Fischer: I had better keep quiet after the public row you have caused.

Scharping: That is why I am asking. When you carry out all your plans and work out how much they cost, you will realize that a typical family with two children in a Frankfurt suburb will never be able to make ends meet. You Greens can never reimburse with benefits what you demand in the form of levies.

Fischer: That is childish. I would not want to see a worker's family with two children earning a mere 3,500 marks per month. But one cannot avoid considering a fairer distribution of burdens. He who can afford more should pay more, for I am convinced that a greater burden has to be borne in order to combat unemployment.

Scharping: Joschka, your idea of a new "social contract" between "ecologically conscious better wage earners," as the Greens describe them, and the "socially disadvantaged" is too short-sighted. This is not a reform coalition. Qualified workers, engineers, and self-employed persons belong to it.

Fischer: Exactly. And these are the people who have to be told the truth.

DIE ZEIT: According to the SPD program, the social security system and tax system are supposed to be implemented together.

Scharping: Right. State benefits that serve to bridge the social gap must not increase in line with incomes. That is why we insist on fixed amounts of money for child benefit and housing construction, and the abolition of tax on these benefits. This will release many people from the tax burden, and render many bureaucratic procedures superfluous.

DIE ZEIT: I wonder how long we can continue making certain benefits also available to better wage earners.

Scharping: That is something which the tax system must control, not the social security system. Otherwise there will be overview, and no majority support.

Fischer: We will see.

Scharping: I overlook the fact that some of your views are quite unfeasible. Even in environmental policy, you are not doing the things you should have and could have done. Saarland has gone further than any other land as far as solar energy is concerned, Hamburg has achieved the greatest progress concerning water conservation. The pollution map shows only two rivers marked in dark red—the Emscher, and the Ried in Hesse. I could give more examples.

Fischer: Your examples are inaccurate. You omit to mention our 105 million mark expenditure on water conservation measures, our law on energy conservation, our program for improving the safety of chemical installations, and a lot of other things. But let us stick to nuclear energy. The Greens have resolved—against my wishes—that the abandoning of nuclear energy within the space of two years is technically and legally possible. There is nothing wrong with that. But who is to pay for it?

Scharping: It would cost 200 billion marks.

Fischer: It is possible to reach a consensus whereby the abandoning of nuclear energy can only be seriously possible when there is a reform coalition. But I do not know how long that would last. What I do know is that the oldest nuclear plants, such as Biblis A, will be out of service. One can immediately say no to the processing of nuclear fuel abroad.

Scharping: I agree.

Fischer: Wonderful. Therefore the processing facility in Sellafield will also be expendable. All this can be achieved. The remaining operating periods for individual reactors will be agreed upon, and the disposal of strict limits of nuclear waste will have to be arranged.

DIE ZEIT: Mr. Scharping, if you become chancellor, how long will it be before the last nuclear plant is switched off?

Scharping: Not very long. Stade can be closed down, and Biblis A as well. Closing down the rest depends on an energy consensus that must lead to the abandoning of nuclear energy.

DIE ZEIT: What about the option of reverting to nuclear energy if there turns out to be a safe reactor?

Scharping: No, there would be no return to nuclear energy.

Bioreactor Used To Cleanse Contaminated Soil

*BR2505094794 Wuerzburg UMWELT MAGAZIN
in German Mar 94 pp 118, 120*

[Text] Smaller volumes of soil, up to 500 tonnes in particular, can be freed of hydrocarbon contamination in a tank-type cleansing reactor using a biological process. The separate processing of individual soil batches also has the advantage that each owner's soil batch remains separate and can thus be returned to the original spot.

HGN Hydrogeology Norhausen's plant centers on a completely covered tank-type cleansing reactor in which the pollutants are degraded. The reactor can be transported on a container truck. Tank capacity is designed for a maximum of seven cubic meters, so the reactor can be loaded onto a truck even when full.

Soils contaminated with aliphatic, aromatic, and halogenated hydrocarbons in concentrations up to 30,000 mg/kg dry weight can be treated. A built-in soil air extractor also makes it possible to eliminate volatile aromatic and halogenated compounds.

Pollutant Degradation in Just a Few Weeks

The microflora native to the polluted area is generally used in the reclamation operation. Microorganism activity is enhanced and pollutant degradation accelerated by adding a nutrient solution and forced air ventilation. Only in special cases is it necessary to add purpose-bred organisms. The treatment time depends on the degree of contamination: usually the pollutants are degraded within a few weeks.

Compressed air is forced in to aerate the soil through perforated hoses laid longitudinally along the inner wall of the reactor. The exhaust air is extracted from the housing, filtered through activated carbon or a biofilter, and discharged into the atmosphere. Water—with or without the added nutrient solution—trickles out of an irrigation system installed in the hood covering the tank. Once it has seeped through the soil, the water is drawn off through the tank's perforated double base, after which it is reconditioned in a central water purifying plant outside the reactor and recycled into the reactor.

Waste Tar Converted Into Fuel

BR2505100694 Wuerzburg *UMWELT MAGAZIN*
in German Mar 94 p 120

[Text] There are numerous tar dumps in the new federal laender, the result of lignite coking residue dumping. A two-stage conditioning process developed by Wuppertal-based OeKa can be used to obtain a solid fuel from this matter, which is rich in phenol and aromatic hydrocarbons.

If a lime-based storage mineral (Novomix) in suspension form is stirred into the tar, it both reduces the odor given off and creates an initial liquid fuel that can easily be piped off. In the second stage, Novomix-F is added continuously as a compacting agent, within a short time turning the tar into a solid substance matching raw lignite in appearance and calorific value. This material can consequently be burned along with lignite. The storage minerals' basic components bind the acid components of the flue gas during combustion.

The process has been successfully tested in a pilot project supported by the Land of Brandenburg. The storage mineral, which OeKa Environmental Engineering developed together with various universities, can be used to immobilize pollutants found in gases, fluids, and solids.

Directory of Reclamation Experts Published

BR2505101494 Wuerzburg *UMWELT MAGAZIN*
in German Mar 94 p 120

[Text] In July 1991, polluted site reclamation experts joined forces to form the Mecklenburg-Western Pomeranian Syndicate for Surveying and Reclaiming Polluted Military and Civilian Sites, MIGEMA for short. This nonprofit association has set itself the task of pooling the know-how available to date, promoting the rapid development of processes and equipment, and making a substantial contribution to the conservation and enhancement of the environment in the Land of Mecklenburg-Western Pomerania.

The first edition of the MIGEMA manual, which provides an overview of the well over 300 members (as of the beginning of 1992), came out in 1992.

This informative reference work can be obtained from the following address: MIGEMA, Carl-Hopp-Str. 4a, 18069 Rostock, tel. 0381/813-490, fax 0381/813-413.

Nuclear Research Center Reorients R&D

BR2705111994 Munich *SUEDDEUTSCHE ZEITUNG*
in German 5 May 94 p 24

[Article by Jeanne Rubner: "Research Tanker Steers a New Course—Rossendorf Focuses on Materials Science and Reclaiming the Uranium Mining Area"]

[Text] No, the entrance is by no means imposing. Were it not for a rusting sculpture of the Greek letter psi surrounded by spheres in elliptic orbits—symbolizing atomic physics—one could drive straight past the gate of the Rossendorf research site near Dresden without even noticing it. Nevertheless, with close to 2,000 employees, the former GDR [German Democratic Republic] Central Institute of Nuclear Research used to be the largest Academy of Sciences facility, indeed the largest research institute in the whole of the east.

Even today, the site, with its barbed wire fence and drab buildings, hardly beckons invitingly to visitors. Perhaps it is not meant to, for radioactive waste from the research reactor, which has now been shut down, has been dumped in the Rossendorf woods. "Things were easier in GDR days," says Gudrun Zwicker, formerly a physicist in Rossendorf and now consultant to the scientific director, Wolf Haefele. "In those days the waste went to Morsleben." This permanent store has now been closed. The nuclear laboratory had to be sealed up overnight after unification. Many employees with the requisite know-how have been dismissed, says Zwicker.

A reprocessing company now looks after radioactive waste disposal. It was founded in 1992 and employs a staff of 130. The waste problem is "highly complex and technically difficult," says Haefele, who was previously the director of the Juelich Nuclear Research Center. The disposal work will keep the company busy for 15 to 20 years, he believes.

Problems Specific to the East

The five Rossendorf Research Center institutes that are currently operative came into being two years ago, some of

them growing out of the sectors positively assessed by the Science Council. In the same way that the Karlsruhe and Juelich nuclear research centers are looking around for new tasks, whether in brain or environmental research, a new profile is also being sought in Rossendorf. Problems specific to the east compound the problems also experienced in the west in such attempts to steer a cumbersome "research tanker" onto a new course. Unlike Karlsruhe and Juelich, Rossendorf is not a major research facility, but what is known as a Blue List institute, which is consequently only 50-percent—and not 90-percent—financed by the Federal Government. The Land of Saxony foots the other half of the bill. Apart from the new institute directors, some of whom come from the west, almost all the 450 permanent employees were inherited from GDR days. Their average age is very high, and as a result many of them are finding it difficult to adjust to the changeover. To add to the problems, there is considerable feeling of insecurity among the researchers.

Indeed, it is not yet known whether all the institutes can actually carry on in their current form. For example, the Institute of Nuclear and Hadron Physics is the only one of its kind left in eastern Europe. However, competition in this field of research, which is nevertheless slowly becoming extinct, is considerable in the West. So is the institute still needed? It also has the problem that its director designate has backed out. There is thus also some doubt as to whether the planned electron accelerator will be built.

If it is not, it is unlikely that there will be a major facility in Rossendorf in the foreseeable future, as the research reactor, a neutron source previously used for materials research and for the production of isotopes for medical applications, has been shut down, contrary to the Science Council's recommendations. The federal research minister in office at the time was unwilling to spend the 60 million German marks that it would have cost to bring the reactor, which had been renovated immediately prior to the German unification, up to "western standards."

Anxieties About the Future

The Institute of Safety Research, too, has grounds for anxiety as to its future. It has to date been working on Soviet-type reactors, but since the Greifswald pile was shut down, there have been none left in the Federal Republic. The Science Council met last week to discuss the future of Rossendorf and will pronounce judgment in mid-May.

The prospects look better for the Institute of Ion Beam Physics and Materials Research, where the focus is on electrically charged atom beam applications in surface treatment and materials research, things it was doing, at least in part, before the unification. "At that time, our scientists were competitive," says director Wolfhard Moeller, "although much of the apparatus was hopelessly obsolete." This situation has changed since then, the laboratories now boasting several ultramodern ion accelerators and the institute being the biggest of its kind in

Europe. The researchers there use a method, developed back in GDR days, of extraordinary interest to art historians, as they use proton beams to study works of art. The charged nuclear components penetrate the layers close to the surface, and the radiation emitted (X-ray waves, or protons themselves) makes it possible to identify the chemical elements contained in the colors used in a painting, for instance. The applications for this noninvasive test procedure are self-evident: If the yellow, for example, is not a lead and tin mixture but a chrome mix not available in the middle ages, whereas the painting is attributed to that period, it could be a fake.

The institute is also engaged in work on miniature sensors. Sophisticated instruments have usually been needed to date to detect certain pollutants in the environment, especially when they occur in minute quantities. The intention is therefore to build sensitive sensors that can be produced cheaply and on an industrial scale for deployment on numerous sites. The individual components required are already available: special semiconductor devices known as ion-sensitive field-effect transistors measure concentrations of substances in, for instance, a water sample. Liquids are fed through by micropumps and valves.

Measuring Ion Levels in the Blood

The time has now come to combine these components on a small silicon wafer, thus creating a complete, autonomous measuring system capable of handling small samples. A system of this type could also be of interest to the medical profession, for measuring ion levels in the blood, for instance. The Rossendorf researchers have now succeeded in building a pump that is incorporated into the silicon wafer. It measures one centimeter square and can flush one microliter of liquid per hour through a fine pore. The scientists hope to present a complete measuring system within the next few months.

Another institute in Rossendorf, the Radiation Chemistry Institute, is endeavoring to assist Wismut GmbH with reclamation work on the former uranium mine. "About 250,000 tonnes of uranium ore have been mined in Saxony and Thuringia since 1945. The earth was completely raped by pumping acids in," says Heino Nitsche, director of the institute. Gigantic contaminated areas, shafts, and slagheaps are the result.

Controversy as To Correct Reclamation Method

The experts are still arguing over the best way to clean the area up. In any case, however, the salvage work will cost a great deal of money. "So it is worthwhile getting the basic principles straight to start with," says Nitsche. In other words, how does radioactivity spread in the air and soil, how do the rock and water strata interact with one another, and what by-products are formed when uranium decomposes? "There are already models that describe the spread of radioactive substances, for example," says Nitsche. All they need to obtain accurate forecasts is precise input data, and this is where the scientist comes in.

Affairs: Baltic Sea States Discuss Fishing Problems, Environment

*WS2605073794 Tallinn BNS in English
1318 GMT 25 May 94*

[Text] Tallinn, May 25, BNS—Estonian Environment Minister Andres Tarand and Lauri Vaarja, the general director of the Fishing Department, returned today from Sweden where they attended a fishing conference of the Baltic coast nations. On the agenda of the conference were the situation with the stocks of fish, fishing statistics and exchange of information.

The meeting discussed the decline in the stocks of cod in the Baltic and the need to improve statistics on cod fishing, as well as diseases of Baltic salmon and the possibility of joint research into their reasons.

Vaarja reported to the meeting on Estonian statistics concerning stocks of fish, noting that collecting complete overall statistics is difficult, since the task of amassing data has been laid on local governments.

The participants decided that, in order to improve catch statistics, the Baltic Sea states should exchange information about all fishing vessels that put in at their ports and prevent illicit port visits.

Tarand said in an interview with BNS that coordinating cooperation between Baltic coast nations on the level of prime ministers is one of the opportunities to improve information exchange.

The meeting in Sweden also touched upon the stock of seals in the Baltic. Although seals pose a threat to fish, they are in jeopardy themselves due to environmental pollution.

The next fishing conference was set for the beginning of 1995.

Export of Illegal Toxic Waste Investigated

*PM2605101094 London THE EUROPEAN in English
27 May-2 Jun 94 p 3*

[Michael Bond article; "Poisonous Trail of the Toxic Cowboys"]

[Text] One day at the end of last summer a small container ship edged quietly out of Tilbury docks in Britain and headed across the Atlantic for South America. Its decks were laden with dozens of metal barrels filled with 300 tonnes of what the labels innocently referred to as agricultural nutrients for soil treatment.

But when Customs officers inspected the ship as it docked in Brazil they discovered that the barrels were packed full, not of harmless fertilisers but of highly toxic chemicals such as lead, mercury, cadmium and arsenic.

Fearing that this cargo with its cancer-causing ingredients would end up, like dozens before it, dumped in a secluded spot in the Brazilian countryside, the officers refused to allow it ashore. The freighter, its cover blown, was forced to chug back to Britain fully laden.

Such shipments have always been unwelcome, and often clandestine, but no one knew for certain that they were

illegal. Companies could export toxic waste for "recycling", but there was no effective check on whether the destination countries had necessary facilities.

But in March this year an attempt was made to close the loophole. The 127 signatories to the 1989 Basel Convention outlawed the dumping of any toxic waste by the industrialised nations on their most regular victims—non-members of the Organisation of Economic Co-operation and Development (OECD) in the developing world like Brazil and Indonesia. But in view of the time it takes to build waste-disposal plants, the new rules do not take effect until 1997.

Police are now concerned that the threat of tighter regulations will tempt companies to find cheaper, illegal ways of disposing of their waste. Indeed, the loudest applause for the new ruling will have come from organised criminal groups, some of which are already being paid vast sums of money by European and U.S. companies to dispose of their waste overseas. The ban opens up whole new areas of profitable operations for the smugglers of poison.

The accepted safe methods of disposal—incineration or burying in specially sealed containers—are complex and, at \$400 a tonne, expensive. Denied the opportunity to dispose legally and easily of their material, companies will be more prone to enlist the aid of gangs to do the job.

Jim Puckett of Greenpeace in Amsterdam, said: "The ban will succeed in closing most of the legal loopholes, but the illegal waste trade will become immensely profitable. The cost of disposing of waste in Europe by legal methods has sky-rocketed, and it will be easy for a firm to pay criminals a few dollars a barrel to get around it."

It is already profitable enough for organisations like the Mafia to have moved in. A company based in northern Italy, with confirmed Mafia connections, was paid by several Italian firms to get rid of huge quantities of toxic waste. A large part of it was dumped in Somalia, the rest in Vietnam and Cambodia. According to one investigator on the case: "The company signed contracts with waste producers to get rid of the stuff. When it was prevented from dumping all of it in Somalia, it had to find other places. But international contacts are no problem for these people." The firm's boss has since fled abroad.

The German Federal Criminal Bureau (BEA) is looking into dozens of cases in which criminal gangs are suspected of taking waste from industrial firms and dumping it in lakes and quarries in eastern Europe, which will be paying the price for decades to come. Children searching smouldering dumps for anything they can sell—a common sight from Romania to the Philippines—have no way of knowing that their health is being destroyed by the detritus of an Essen factory.

Every year thousands of tonnes of waste containing incinerator ash, old car batteries, tyres, solvents, paints, out-of-date pesticides and toxic heavy metals are dumped in such countries.

Germany, the world's largest exporter of toxic waste, sent 1,370,892 tonnes of toxic waste and other hazardous rubbish to non-OECD countries between 1989 and 1993. Some of this was legally exported, under the old rules, for

"recycling" to Indonesia and eastern Europe, but much was shipped in under false labels or simply dumped by unscrupulous German waste operators.

Romania, Albania, Poland and the former Soviet Union are the most popular dumping grounds. In 1992, 500 tonnes of out-of-date pesticides from east Germany were discovered near the town of Sibiu in Romania.

They had been tipped there illegally over a period of two years after being carried across the border labelled as "humanitarian aid—for use in agriculture".

In March this year the German government agreed to pay for the removal of 400 tonnes of old pesticides which had been sent to Albania by a German company in March 1992 labelled as "humanitarian aid". Two years after it had arrived the consignment was still sitting on the train in which it had arrived—dubbed the "death train" by Albanian newspapers—at Bajze near the border with Montenegro, and much of it was leaking.

According to John Arans, a Greenpeace investigator who worked as a detective in the Netherlands for 22 years, criminal networks stretching from Italy to Russia are secretly funding illegal waste companies in Europe. "The export of illegal waste is related to the drugs and arms trades" he said. "The same names keep coming up again and again during investigations into these activities."

Italian police also claim that the Mafia has infiltrated the waste industry, charging companies for taking toxic waste off their hands and disposing of it in quarries or even on roadsides. Italy produces 15 million tonnes of toxic waste each year but has the capacity to treat just 1.5 million tonnes safely. Europe's waste disposal industry this week joined environmentalists in calling for tighter controls on movements of toxic waste. Dieter Vogt, of the European Association of Waste Disposers, said: "We have more than enough regulations on toxic waste, but not enough is being done to implement them. It is up to governments to make them stick."

The police are not prepared to wait. Teams of detectives are already being assembled to track and stop the smugglers. Whether they can stem the toxic tide remains to be seen.

Four Nations Propose Alternate Whale Sanctuary Plan

*OW2505070094 Tokyo KYODO in English
0608 GMT 25 May 94*

[Text] Puerto Vallarta, Mexico, May 24 KYODO—Four nations advanced an alternative proposal Tuesday [24 May] to a plan for imposing a whale sanctuary in the Antarctic that would virtually bar Japan and other whaling nations from resuming commercial whaling.

Chile, Argentina, Sweden and Switzerland jointly put the new proposal forward at a session of the International Whaling Commission (IWC) here, conference sources said.

The compromise plan appeared to stand a better chance of being approved than the original French-led proposal, the sources said. Of its joint sponsors, Chile voted against and Mexico for a similar sanctuary plan at last year's meeting while the remaining two abstained.

The revised plan is a scaled-back version of the drastic French proposal which would ban whaling in a vast area of the Southern Hemisphere that stretches from latitude 40 degrees south to the shores of the Antarctica, they said.

The fresh proposal, however, if adopted, would mandate a ban on any hauls of minke whales—the last large whales to have survived the modern whaling era—whose numbers are estimated by the IWC at 760,000.

Japan, where whale meat consumption is considered customary, has been calling for exclusion of minke whales from protection under the sanctuary formula.

The proposal, however, corresponds with the Japanese proposal in that it would pare down the scope of the French-proposed sanctuary to a narrower area that stretches from latitude 55 to 60 degrees south to the Antarctic shores.

It would authorize hunting of sei whales, which make an annual migratory tour throughout a vast aquatic range stretching to the equator. Sei whales are reportedly endangered.

It would also allow whaling in the 200-nautical-mile zone off the shores of Chile, one of the four proponents of the proposal.

Whaling Commission Approves Sanctuary at Mexico Meeting

*PA2705164194 Mexico City XEW Television Network
in Spanish 0430 GMT 27 May 94*

[From the "24 Hours" newscast]

[Text] The whale sanctuary in the Antarctic has been approved. Most of the countries participating in the 46th annual meeting of the International Whaling Commission [IWC] said yes to the proposal to establish an area of protection against commercial whaling. Thirty countries participated in the final vote. Of these, 23 countries, including Mexico, were in favor. One country, Japan, voted against the proposal. There were six abstentions. Norway decided not to participate in the vote.

The sanctuary that was accepted corresponds to the proposal presented on Thursday morning by Mexico, France, and Chile and was supported by the rest of the nations. It will be located at latitude 40 degrees south, but the 200 nautical miles of Chile and Argentina will be respected.

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